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ABSTRACT

The HEW 309(b) Special Project carried out by the Niagara Falls Adult Basic Education program, "The Identification of Preferred Cognitive Styles and Matching Adult Reading Program Alternatives for the 0-4 Grade Levels," involved research, training in cognitive style mapping, and development of a survey and process to assess the adult student's preferred cognitive style, to assist the staff in prescribing individualized instruction. Development of a taxonomy of alternative reading programs, methods, and materials presently available at the Niagara Falls adult education center provided the staff with a resource file of materials, both hardware and software, for use in prescribing educational materials for individual students. The report comprises one-fifth (46 pages) of the document and includes: project description, personnel information, an account of project methods, and results and recommendations. Appended materials, the bulk of the document, include: directions for administering and tallying the cognitive style survey instrument, directions for plotting and using cognitive style maps, student record forms, sample survey items, collective maps, and measures of central tendencies. Materials related to workshops in cognitive style mapping and sample pages from the taxonomy of materials form two major appendixes. Correspondence and dissemination information are also among the appendixes. (AJ)

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A 309 b ADULT EDUCATION
SPECIAL PROJECT
FINAL REPORT

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
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ACKNOWLEDGMENT

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BOARD OF EDUCATION
SCHOOL DISTRICT OF THE CITY OF NIAGARA FALLS, NEW YORK
607 WALNUT AVENUE
NIAGARA FALLS, N. Y. 14302

Office of Adult Education

22 December 1975

Mrs. Pearleen Butler
Planning Office
Room 4153
U. S. O. E.
400 Maryland Avenue, S. W.
Washington, D. C. 20018

Dear Mrs. Butler:

Enclosed you will find a compilation of our final report for Project V0093-VA entitled The Identification of Preferred Cognitive Styles and Matching Adult Reading Program Alternatives for the 0-4 Grade Levels. The report has been divided into three volumes:

1. Final Report
   A 309(b) Adult Education Special Project
   Grant No. OEG-0-74-1763
   F/Y 1974-75

2. A Taxonomy of Reading Alternatives

3. Evaluation Report
   HEW 309(b) Project 1974-75
   Niagara Falls, New York

The original project levels for the priority adult student were expanded from 0-4 to 0-6 grade reading level since the structure of the Niagara Falls Adult Basic Education class is self-contained for levels 0-6. Also, it was very difficult to limit the assessment of the available materials to 0-4 grade reading level when many of the materials used were listed with a range of reading levels, e.g. 0-3; 3-6; 4-6, etc. The project was also expanded to include mathematics as well as reading since the information was available from the cognitive style mapping survey (CSM) as well as from the California Achievement Test (CAT). Because so many new materials were available at the Niagara Falls Adult Education Center, it was necessary to include an assessment of all available materials so that teachers could use them effectively. Therefore, materials with reading in other subject areas were assessed and included in the taxonomy.

In addition to project staff, professional and paraprofessional staff members from the Niagara Falls, Albany, Buffalo, Schenectady and White

Plains Adult Education Centers provided valuable input which has been incorporated into the final report. Valuable information and data were also obtained from the Attica Correctional Facility and the Niagara Falls School System.

Even with the amended project goals and specific objectives, it was found difficult to get to the implementation stage of cognitive style mapping as thoroughly as was originally desired. Therefore, the emphasis was placed on implementation in the Learning Laboratory. The Learning Laboratory Specialist prescribed specific activities for the entering adult student based on his preferred cognitive styles and the programs and materials available in the Learning Laboratory.

The Taxonomy of Reading Alternatives for the adult student is proving to be a valuable resource for adult basic education teachers at the Niagara Falls Center.

We believe the results of cognitive style mapping for adults and the taxonomy of matching reading alternatives are important instructional tools for the adult basic education program in Niagara Falls. It is our belief that these instructional tools will also be of value to other adult basic education programs in New York State and throughout the country.

Cordially yours,

Gerardo Franciosa

Gerardo Franciosa
Adult and Basic Education
Project Administrator

GF:mih
Encl.

INTRODUCTION

An individualized approach to instruction has long been accepted as the optimum method of teaching the undereducated adult. Until now efforts to individualize have focused primarily on instructional needs in the subject areas. No longer is every student in a class on Page 25 of the arithmetic book on any given day.

Although this connotation of individualized instruction is far superior to the traditional classroom approach, recent educational developments indicate that this interpretation is far from complete. Each adult comes to know what he knows in his own unique way. It is no longer enough to diagnose the academic, social, and physical needs to form the basis for instruction. How a person seeks meaning must also be determined. In addition to what he needs to know, it is imperative that we determine how he will best acquire this knowledge according to his own learning preferences. This preferred way of acquiring information is the student's cognitive style. His cognitive style is determined by the way in which he receives information, processes information, and draws conclusions from that information. The procedure used to ascertain these preferences is labeled cognitive style mapping.

Cognitive style mapping is an innovative approach to personalizing the adult education experience. With it, the student's program of instruction can be adapted to differences in cognitive styles by varying teaching techniques to insure the individual's success.

Effective learning by the adult student is highly conditioned by his adjustment and well-being in and out of the classroom. The realistic and satisfying progress of the student toward self-direction depends much on his growing understanding of himself in relation to the opportunities and requirements for education, work, and effective living. These skills and the new awareness must be accomplished in the shortest feasible time and be consistent with good educational practices.

Cognitive style mapping offers the student a positive approach to learning. Through interpretation of the student's cognitive style map, he is given an awareness of his strengths and the depth of experiential knowledge he brings to the adult education setting. Instructional activities are prescribed which allow the student to work in areas he finds comfortable, drawing upon his "cognitive strengths." As a result, the student is more likely to experience success from the moment of intake.

It is an accepted premise that no two people learn in exactly the same manner. In identifying the individual's needs in as comprehensive a manner as possible, a personalized program of instruction should then have valid meaning. The concept considered here is an approach through which the instructional staff can better prescribe techniques and resources for the student.

The taxonomy of reading program alternatives provides the instructional staff with a comprehensive resource file of existing adult education materials, both hardware and software, to draw upon in prescribing educational activities matched to each individual student's cognitive style.

Too often education has been criticized for not being relevant, for isolating itself from the mainstream of life. Cognitive style mapping assists the teacher in prescribing instruction aimed at "the whole person." In addition to utilizing the student's cognitive strengths to facilitate learning, those areas of a student's cognitive style which are deemed weak will be augmented. Rather than being concerned solely with academic skills, the teacher is better able to prescribe activities that will enhance not only academic skills but also interpersonal relationships.

Cognitive style mapping is not a new concept. In the early 1950's Dr. Joseph Hill and his associates at Wayne State University recognized the need for identifying a student's cognitive style. One of his prime objectives was to develop the level of precision and accountability in education that is found in other applied fields such as medicine and law. The concept of cognitive style mapping resulted from this recognized need. Dr. Hill tested this concept primarily at Oakland Community College in Bloomfield Hills, Michigan, where he is president. From this experience, a similar program has been instituted in the East Lansing Schools, East Lansing, Michigan, on the elementary level.

Dr. Hill and his associates at Oakland Community College have conducted workshops for educators throughout the United States and Canada primarily concerning cognitive mapping at the community college level. It became apparent to a member of the New York State Education Department who attended Dr. Hill's workshops that cognitive mapping had much potential for use with A.B.E. students. The possibilities and enthusiasm for adaptation of cognitive style mapping to A.B.E. became a reality upon receiving a HEW 309(b) grant for F/Y 1974-75 intended for this purpose.

ACKNOWLEDGEMENTS

This HEW 309(b) project, designed to identify preferred cognitive styles and matching reading program options for the 0-4 grade reading level, was initiated through funding provided by the United States Office of Education, Division of Adult Education. Special mention is extended to Ms. Pearleen Butler and Mr. James Parker.

Deep appreciation is expressed to the New York State Education Department; Dr. Mary Reiss, Director, Division of Continuing Education; Mr. Neil Carr, Supervisor, Bureau of Basic Continuing Education; Ms. Lois Matheson, Associate, Division of Continuing Education; and Mr. Theodore Turone, Associate, Division of Continuing Education. The foresight and direction of the Division of Continuing Education provided the catalyst for cognitive style mapping in Adult Basic Education.

Particular thanks are expressed to the Niagara Falls Board of Education, namely:

Mr. Henry J. Kalfas, Superintendent of Schools

Dr. Charles M. Long, Deputy Superintendent of Schools

The Niagara Falls Board of Education has provided encouragement to the Adult Basic Education program to continually seek new and innovative approaches that will lead to instructional improvements.

Grateful acknowledgement is made to Dr. Joseph Hill, President of Oakland Community College, Bloomfield Hills, Michigan, and his associates who developed the cognitive survey on the college level and shared materials and ideas for adaptation with adult education students. We are especially indebted to those staff members who assisted in the in-service workshops and for the many

profitable contacts:

Mr. James Orr, Professor, Oakland Community College

Ms. Linda Henderson, Educational Sciences Consultant, Wayne State University

This project could not have been possible without the untiring, most competent and productive efforts of the project staff, who bore the major responsibility for adaptation, design, development, testing, analysis, revisions, and in-service training functions. Their ingenuity and tenacity have made for a major thrust in dealing with the needs of the adult education student. Special recognition goes to:

Ms. Sharon Fake, Teacher on Special Assignment

Ms. Lillian McMillen, Teacher on Special Assignment

Many thanks to the supportive staff, who so adeptly performed the many clerical duties including the administration of the survey and the tallying:

Ms. Marge Hughey, Project Aide

Ms. Lena Jones, Project Aide

Ms. Marie Witkowski, Project Aide

From the onset of the project, a coordinated effort of all departments of the A.B.E. center was essential. For their many contributions to the success of the project, I would like to acknowledge:

Mr. Harold Aloian, Student Advisor

Mr. Harry Kargatis, Learning Laboratory Specialist

Ms. Nancy Koubik, A.B.E. Teacher

Ms. Wendy Wood, A.B.E. Teacher

Ms. Judith Woodley, A.B.E. Teacher

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Mr. Edwin Agresta, Coordinator of Adult Basic Education; Schenectady, N.Y.

Mr. John Carli, Director of Education; Attica Correctional Facility; Attica, N.Y.

Mr. Elliot Lethbridge, Assistant Director of Adult Education for Adult Basic Education; White Plains, N.Y.

Mr. Garrett Murphy, Coordinator of Adult Basic Education; Albany, N.Y.

Mr. William Sdao, Principal, LaSalle Senior High School; Niagara Falls, N.Y.

Mr. Jerome Yavno, Project Administrator for Adult Basic Education; Buffalo, N.Y.

To Dr. Elois Skeen of the University of Buffalo, special recognition is given for evaluation of the project and assistance in designing procedures for data collection.

The project brochure was illustrated by Ms. Mary Alice Kargatis, whose creative talents enhanced a better understanding of its contents.

The project has profited from the many efforts among Federal, state, and local governments, participating educators, and adult students, all of whom displayed much cooperation and concern for one another's roles. I anticipate that this endeavor to which so many contributed will be of inestimable value in identifying and providing for student needs.

Gerardo Franciosa
Adult and Basic Education
Project Administrator

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FINAL REPORT

A 309(b) Adult Education Special Project

Grant No. OEG-0-74-1763
F/Y 1974-75

HENRY J. KALFAS
Superintendent of Schools

CHARLES M. LONG
Deputy Superintendent of Schools

GERARDO FRANCIOSA
Adult and Basic Education
Project Administrator

School District of the City
of
Niagara Falls, New York

ADULT BASIC EDUCATION IN NIAGARA FALLS, NEW YORK

The Niagara Falls Adult Basic Education Program has been in existence since 1963, when it was the pilot project in New York State under the Welfare Education Program. Since that modest beginning, the program has increased in size to its present status of a full-time day and evening program serving approximately 1000-1200 students a year.

The program is staffed with full-time salaried professional educators as well as with many part-time professional and paraprofessional personnel. Every full-time person has had at least fifteen years of prior service in the regular school system and has chosen to make A.B.E. his full-time career, thereby giving the program a stability and commitment rarely found in part-time situations. Every full-time person has been cited by the local school system and the State Education Department for his contribution in the field of A.B.E. Each has been recognized as a leader in his particular area and because of his expertise, has been called upon many times both regionally and state-wide for participation in special projects and to serve as a consultant. The full-time adult learning laboratory has become a model lab in the state and has served as a training lab and resource center for a number of programs in the state.

The Adult Basic Education Program works very closely with a number of agencies and services in the Niagara Falls area. The program is conducted in a number of satellite locations in addition to a full-time adult education center and has provided for classes in such diverse locations as a senior citizens' residence, the Niagara County Jail and several storefront centers.

The Whitney Avenue Adult Education Center has been the adult education center in Niagara Falls for over thirty years.

See Appendix I for a list of activities in which the Niagara Falls A.B.E. program has been involved.

PROJECT DESCRIPTION

TARGET POPULATION

The target population was comprised of the following groups:

a) young males

b) minorities

c) welfare recipients

d) rural and urban populations

e) the most severely impoverished

f) the most severely undereducated

f) the unemployed

h) the underemployed

The cognitive mapping surveys were designed to be used with any population, regardless of age or cultural background; however, the Federal government guidelines established the above listing as project priorities. Therefore, it should not be inferred that cognitive style mapping is restricted in use to only the above groups of individuals.

PROGRAM DESIGN

The cognitive mapping procedure was designed to be implemented into any adult education program in coordination with existing support facilities. During the initial stages of cognitive style mapping, several approaches were tried to determine the most suitable time and place to administer the survey. Because of the importance of having the survey results at the outset of the student's adult education experience, the following procedure was established at the Whitney Avenue Adult Education Center:

a) On entry, the student receives an overview of the program and is registered by the guidance personnel.

b) The Botel Word Opposites Test is given as a locator test to indicate which students should not be given a standardized reading test or to determine the appropriate CAT test level the student will receive. See Appendix II.

c) The student is given the cognitive style survey.

d) The cognitive survey is administered by an aide using either the card reader machine (0-6) or the card sort (7-12) depending on reading level.

e) Following the intake procedure, the student is introduced to his classroom teacher.

f) Tallying and mapping the student surveys are completed by the aides to produce the student's cognitive packet.

g) The student packet contains the registration sheet, the cognitive style map, the tally sheet, and the map analysis sheets.

h) Using the completed cognitive packet, the student is given an individual interpretation of the map by the project professional staff.

i) Based on survey results and student input from the interpretation, individual prescriptions are written by members of the project staff.

j) A personalized prescription sheet including software, hardware, techniques (grouping and instructional activities), and evaluation methods is added to the student packet which is distributed to guidance, teaching, and learning lab personnel. See Appendix III.

PHYSICAL FACILITIES AND SUPPLIES

It is suggested that cognitive style mapping of students requires the following physical facilities:

a) a quiet room or area utilized for surveying purposes

b) a minimum of 2' x 3' of table or carrel space for each student survey station

c) adequate electrical outlets for use with the card reader machines

d) a private area to be used for interpretations

e) sufficient storage facilities and filing cabinets for the maintenance of records and supplies

f) several sets of card reader cards-each set requiring 208 cards

g) an adequate number of card readers to survey students

h) several sets of card file survey cards-each set requiring 208 cards

i) several card placement sheets to be used by each student during surveying

j) an adequate supply of forms used in the tallying process to comprise the student packet

THE THREE SETS OF A COGNITIVE MAP (Sample Map)

SYMBOLIC ORIENTATIONS	CULTURAL DETERMINANTS	MODALITIES OF INFERENCE
T(VL)	F	L
T(VQ)	I	M
T'(AL)	A'	D'
T'(AQ)		R'
Q(O) Q(S)		
Q(T)		
Q'(A) Q'(V)		
Q(CET)		
Q(CKH)		
Q(CEM)		
Q(CES) Q(CK) Q(CS)		
Q(CH) Q(CP)		
Q'(P) Q'(CT)		

The map is a pictorial representation of a student's cognitive style.

THE COGNITIVE ELEMENTS

The process of cognitive style mapping utilizes a special language and shorthand developed by Dr. Joseph Hill of Oakland Community College, Bloomfield Hills, Michigan. On the college level, an extensive list of cognitive elements is employed. It was determined by the Niagara Falls project staff, however, that such fine measurement of cognitive elements was not realistic or necessary for the adult education situation primarily due to the length of time required for such extensive testing. As a result, adults are administered a survey which assesses the following twenty-six elements of cognitive style:

T(AL) Theoretical Auditory Linguistics	Preference for acquiring and communicating meaning through the spoken word.
T(AQ) Theoretical Auditory Quantitative	Preference for acquiring and communicating meaning through numerical symbols, relationships and measurements that are spoken.
T(VL) Theoretical Visual Linguistics	Preference for acquiring and communicating meaning through the written word.
T(VQ) Theoretical Visual Quantitative	Preference for acquiring and communicating meaning through numerical symbols, relationships and measurements that are written.
Q(A) Qualitative Auditory	Ability to perceive meaning through the sense of hearing.
Q(O) Qualitative Olfactory	Ability to perceive meaning through the sense of smell.
Q(S) Qualitative Savory	Ability to perceive meaning through the sense of taste.
Q(T) Qualitative Tactile	Ability to perceive meaning through the sense of touch.
Q(V) Qualitative Visual	Ability to perceive meaning through the sense of sight.

Q(P) Qualitative Proprioceptive	Ability to coordinate a number of behaviors simultaneously in order to perform a complex task. Indicates someone who uses initiative and intuition (sixth sense).
Q(CEM) Qualitative Code Empathetic	Sensitivity to the ideas and feelings of others, ability for someone to put himself in another person's place.
Q(CES) Qualitative Code Esthetic	Ability to enjoy the beauty of an object or an idea.
Q(CET) Qualitative Code Ethic	Commitment to one's own set of values, a group of principles, obligations and/or duties. This commitment need not imply morality.
Q(CH) Qualitative Code Histrionic	Ability to perceive expected behavior and act accordingly.
Q(CK) Qualitative Code Kinesics	Ability to understand and use body language.
Q(CKH) Qualitative Code Kinesthetic	Ability to perform gross and fine motor skills according to a recommended form or given model; a willingness to practice to achieve an accepted form
Q(CP) Qualitative Code Proxemics	Ability to judge physical and social distance between oneself and another and act accordingly.
Q(CS) Qualitative Code Synnoetics	Ability to know oneself; one's physical, social, and mental strengths and weaknesses.
Q(CT) Qualitative Code Transactional	Ability to develop rapport with others and thereby influence them.
A Associates	Seeks and interprets meaning through interaction with associates and/or peers.
F Family	Seeks and interprets meaning through interaction with family and/or authority figures.
I Individuality	Seeks and interprets meaning independently through his own individuality.
M Magnitude	A tendency to reason and behave according to established norms, rules or categorical classifications.

D Difference	A tendency to reason and behave in terms of one-to-one contrasts or comparisons; perceives what a concept is by what it is not.
R Relationship	A tendency to reason and behave through the combination of separate elements into a unified whole or through the analysis of an idea into its component parts.
L Appraisal	A tendency to reason and behave using all methods of reasoning (M, D, and R) giving equal weight to each.

SURVEYING METHODS

To inventory a student, a series of statements on individual cards are presented to cover all elements of cognitive styles. The student is asked to consider each statement and respond according to how the statement reflects his life and attitudes. The classifications of response are Most of the Time, Some of the Time, and Hardly Ever.

In order to accommodate students with varying achievement levels, two survey methods have been developed:

1. The Card Reader Survey

   Statements typed on cards are placed in the card reader machine. Using a headset, the student listens to each card, considers the statement and responds by placing the card in the section of his choice on a card placement sheet. (Note: If a card reader machine is not available, the statements may be typed on 3 x 5 cards and recorded on cassette tape.)

2. The Card File Survey

   Statements typed on cards are read and considered by the student who responds by placing the cards in the section of his choice on a card placement sheet.

THE FIRST SET - Symbolic Orientations

This area of the map indicates whether a student obtains meaning by reading or listening both mathematically and linguistically and whether he best expresses himself by speaking or writing. The student's sensory acuity is surveyed as well as those elements of cognitive style which relate to his feelings, commitments, and values.

THE SECOND SET - Cultural Determinants

This area of the instrument reflects the effect of social groups (whether it be associates or family) on how the student perceives life. The student's individuality is also assessed. This area reflects the person's independence and need to interpret ideas in his own words.

THE THIRD SET - Modalities of Inference

The map illustrates the ways in which a student reaches decisions or how he reasons. Categorical reasoning, contrast and comparison, analysis, synthesis, and appraisal are methods that individuals employ in determining their course of action.

$$\begin{array}{cccccc} & \text{SYMBOLIC ORIENTATIONS} & & \text{CULTURAL DETERMINANTS} & & \text{MODALITIES OF INFERENCE} \\ G= & \left[\begin{array}{c}\text{How we receive information}\\ \\ \\ \text{reception}\end{array}\right] & \begin{array}{c}X\\ \\ \\ X\end{array} & \left[\begin{array}{c}\text{How we interpret information}\\ \\ \\ \text{interpretation}\end{array}\right] & \begin{array}{c}X\\ \\ \\ X\end{array} & \left[\begin{array}{c}\text{How we draw conclusions}\\ \text{about information}\\ \\ \text{conclusion}\end{array}\right]\end{array}$$

It should be apparent from the above descriptions that cognitive style mapping is equally applicable for non-readers as well as good readers. Students are required to do no writing during the survey, thus eliminating another possible problem area. Cognitive style mapping may also be translated into foreign languages for use with ESL students.

THE TALLYING PROCEDURE

Upon completion of the survey, the student is taken to his classroom and introduced to the classroom teacher. Project aides then begin the process of tallying the student's response to the survey. Each survey card is coded so that placement of the card may be easily tallied on a tally sheet. The responses are weighed and totaled resulting in cognitive "strengths" of major, minor, or negligible orientations. From the tally sheet the aides compose the cognitive style map and a map analysis sheet which are given to the student following his map interpretation. Copies of the student's map are distributed to his classroom teacher and the learning lab specialist. The original map is filed in the cognitive mapping office and available to other staff personnel interested in the student's profile.

THE INTERPRETATION

Following the survey procedure, the student is encouraged to sign up for an individual interpretation of his map. This portion of the cognitive mapping experience has a two-fold purpose - to give the student an explanation of the results of his map and to ensure the accuracy of the mapping experience. Mapping of a student's cognitive style is both an empirical procedure (based on teacher observation) and a mathematical procedure (based on the results of the printed survey). As well as being able to interpret the results of the printed survey, the instructional staff must be well trained in assessing cognitive styles through their powers of observation.

Interpretation of the student map should be conducted by a trained professional only. Interpretation requires an extensive background in cognitive mapping and practical experience in the field. For optimum benefit, the interpretation should be completed as soon as possible after the mapping session takes place, certainly no later than two weeks following the survey.

An informal atmosphere is an important criteria for the interpretation. Emphasis is placed on the positive strengths of the student and the terminology of "survey" rather than "test." The student is made aware of the idea that there are no good or bad cognitive maps, nor are there any right or wrong answers to the survey. Every effort is made to encourage active involvement of the student and to key the length and depth of the interpretation to the student's interest. Because of the personal nature of the interpretation, privacy is essential to an open exchange between student and interpreter. Map changes or student comments during interpretation are noted in writing by the interpreter in the presence of the student.

THE PRESCRIPTION

For every task, educational or not, there are certain basic abilities necessary to the satisfactory completion of that task. In the educational science of cognitive mapping this is referred to as the "probable mode of understanding" of the task. This "mode of understanding" is a mini-map of the selected cognitive elements needed to perform successfully in that task. Prescribing an instructional program for the student becomes the task of matching a student's map to the mode of understanding for each given form of instruction. The more complete the match, the more likely the student is to achieve success through that method of instruction.

Cognitive mapping can also be used as a tool through which to prescribe activities to augment or strengthen areas of the map which the professional staff and the student feel necessary. Augmentation of the map is facilitated by using the student's strengths to develop his weaker areas. Through dialogue between teacher and student, the student becomes an integral force in the assessment of his needs, resulting in a greater voice in determining his own prescription of instruction.

THE TAXONOMY

As soon as the adult student's level of educational development and cognitive style have been determined, a personalized program of educational activities is prescribed by the professional staff using existing materials available at the Niagara Falls adult learning center.

The hardware and software materials for the 0-6 reading level adult student have been identified by reading level and by cognitive "mode of understanding" forming the core of the taxonomy of alternative methods and materials which is being implemented in the Niagara Falls program.

PROJECT PERSONNEL

PROGRAM STAFFING AND QUALIFICATIONS

Staffing for the CSM project was a very important factor in determining whether or not the program's objectives could be met. The professional staff selected were those who had successful experiences in the Adult Basic Education program with success demonstrated in the establishment of rapport with students and among staff members. Not only was work experience considered, but also academic background, administrative abilities, creativity, flexibility, decision-making ability, initiative and commitment to a task. It was extremely essential that the staff personalities be innovative and empathetic toward the target population involved.

Two full-time certified teachers were placed on special assignment at the inception of the project under the direction of a program director.

PROGRAM DIRECTOR

The multifaceted role of project director was assumed by the Adult and Basic Education Project Administrator for the Niagara Falls Board of Education. His role encompassed the administrative aspect of the program as well as the developmental and evaluative portions of the project. He was, from the onset of the project, fully aware of the impact that CSM would have upon A.B.E. students and the ever-growing need for its development and implementation. His understanding of the target population was responsible for the project's accommodation to the students' real needs and problems.

BIOGRAPHICAL SKETCH OF PROJECT DIRECTOR

GERARDO FRANCIOSA, ADULT AND BASIC EDUCATION PROJECT ADMINISTRATOR

B.S. Elem. Educ.; State University of N.Y. at Brockport; Brockport, N.Y.

M.S. Elem. Educ.; State University College at Buffalo; Buffalo, N.Y.

75 hours' graduate work in Elementary Supervision and Administration;

State University of N.Y. at Buffalo; Buffalo, N.Y.

Montclair State College, New Jersey and

State University College at Buffalo; Buffalo, N.Y.

10 years Elementary Teacher (grades 4-6)

1 year Elementary Reading Teacher (grades 1-6)

Various system-wide committees in elementary education

4 years A.B.E. Teacher (part-time evenings)

10 years A.B.E. Coordinator; Niagara Falls, N.Y.

Past Chairman of N.Y. State Steering Committee for Adult Basic Education (Educational Planning and Improvement Committee (EPIC))

Various state-wide and regional committees in the field of adult basic education

Member of regional, state, and national Association for Continuing Education

BIOGRAPHICAL SKETCH OF PROJECT ASSOCIATE

SHARON FAKE, PROJECT ASSOCIATE

B.A. Elem. Educ. (through grade 6); Lake Erie College for Women

University of Amsterdam, the Netherlands (the Montessori Method)

Six graduate hours in Guidance; Niagara University; Niagara Falls, N.Y.

1 year Physical Educ. for Girls K-12; Parishville, N.Y. Central Schools

2 years Sixth Grade; South River, N.J. Public Schools

2 years A.B.E. and ESL Teacher; Niagara Falls, N.Y.

Teacher Rep. for N.Y. State pilot project in Cognitive Style Mapping

BIOGRAPHICAL SKETCH OF PROJECT ASSOCIATE

LILLIAN MC MILLEN, PROJECT ASSOCIATE

B.S. Elem. Educ. through Grade 8; State University College at Cortland; Cortland, N.Y.

M.S. in Elem. Administration and Supervision; State University College at Buffalo; Buffalo, N.Y.

2½ years Kindergarten; Niagara Falls Public School System

2 years Second Grade

3 years Elementary Helping Teacher (grades K-3)

3 years Assistant to the Director of Elementary Education

1 year Remedial Reading Reading Teacher (half-time)

1 year A.B.E. Teacher (0-6 Reading Levels, evenings)

1½ years A.B.E. Learning Laboratory Specialist (half-time)

1½ years A.B.E. Instructional Specialist

STAFF COMPETENCIES IN COGNITIVE STYLE MAPPING

Among the competencies considered appropriate for the Project Director were knowledge of the following:

a) Theory and practice in teaching in adult education
b) Characteristics of the A.B.E. adult student
c) Experience in staff in-service workshops
d) Experience in record-keeping systems
e) Recruitment practices for A.B.E. programs
f) Experience in proposal preparations and budget management
g) Theory and practice in the development of A.B.E. programs
h) Federal and state funding procedures

Among competencies considered appropriate for the Project Associates were:

a) Background, theory, and practice in teaching A.B.E. students

b) Knowledge of and experience in program development

c) Knowledge of the needs of the target population

d) Knowledge of CSM as used on the college level

e) Understanding of cognitive style elements, surveying, tallying, mapping, interpretation and prescription

f) Skills to effectively relate to students, teachers, administrators and the community

g) Commitment to test, analyze, and revise the cognitive style mapping survey

STAFF RESPONSIBILITIES IN THE COGNITIVE STYLE MAPPING PROJECT

Among the 309(b) Project Associates' responsibilities performed during the past year were the following:

a) Wrote survey questions for the card reader and card file.

b) Created or revised forms used in cognitive style mapping

c) Made presentations when called upon to do so.

d) Set up and maintained the cognitive style mapping office.

e) Supervised work of three project aides.

f) Created procedures to be followed in CSM for use throughout participating centers.

g) Interpreted maps to students.

h) Planned, organized, and presented follow-up workshops to participating centers.

i) Field tested the cognitive instrument and procedure at A.B.E. centers throughout the state, Attica Correctional Facility, Attica, N.Y., and LaSalle Senior High School, Niagara Falls, N.Y.

j) Received outside agencies and/or individuals interested in CSM who visited the center.

k) Developed probable modes of understanding for taxonomy materials and prescription sheets for CSM.

l) Interpreted and prescribed for outside centers involved in CSM.

m) Developed and designed a brochure on CSM.

n) Assisted in planning CSM staff development workshops.

o) Provided training for staff of the participating centers in interpretation and prescription techniques.

p) Answered correspondence between Niagara Falls and interested parties.

q) Developed procedures for collecting data and statistics such as mean, median, mode, frequency distribution, graphing of statements and item analysis.

r) Disseminated information about CSM.

s) Evaluated and organized materials for the taxonomy. Developed individual modes of understanding for taxonomy materials based upon percentiles of student responses.

t) Revised the model as necessary. During the development and field testing of the model, certain data indicated modifications, deletions, and additions were necessary.

u) Organized the materials according to cognitive categories based on established probable modes of understanding.

v) Worked with CSM trained professional staff members in evaluating each taxonomy entry with respect to its grade level, format, and use in individualized instruction.

w) Refined the cognitive elements of the mini-map to allow for the variance of programs and materials within each hardware and software category.

x) Developed a total organization of the taxonomy of materials including cognitive and bibliographic information.

y) Organized and directed the clerical staff in the typing of the taxonomy.

z) Proofread and edited typed material for final printing.

PARAPROFESSIONAL STAFFING, COMPETENCIES, AND RESPONSIBILITIES

In considering the paraprofessional, some work experience with an education program was preferable. The basic education requirement was a high school diploma. Three aides were assigned to work in the cognitive style mapping project.

Among the competencies considered appropriate for the paraprofessional were:

a) Knowledge of the fundamental skills of communication.

b) Knowledge of experience with basic office procedures, including typing skills and filing.

c) Knowledge of an possession of interpersonal skills to relate effectively with administrators, students, community, and staff members.

Aides were responsible for the following functions:

a) Any necessary typing such as forms, materials, and correspondence.

b) Administration of the survey to students.

c) Maintenance of records, filing, and data collection process.

d) Gave assistance in conducting the item analysis procedure of the survey.

e) Tallying of surveys.

PROJECT METHODS

STAFF DEVELOPMENT

PROJECT STAFF

Members of the project staff included two teachers and the administrator of the Adult Education Program, who also acted as project director. In-kind participation was provided by the A.B.E. student advisor and the learning laboratory specialist. Three project aides were hired to carry out clerical functions of the project and to assist in the smooth operation of the cognitive office.

The five professional members of the staff received their initial training and exposure to cognitive style mapping from Mr. Theodore J. Turone, Associate, Division of Continuing Education, N. Y. State Education Department, who had attended beginning and advanced training workshops presented by Dr. Joseph Hill of Oakland Community College, Bloomfield Hills, Michigan. As a result of the interest generated in this concept, the Niagara Falls A.B.E. staff was encouraged to apply for and subsequently received a HEW 309(b) grant.

A three-day advanced training session was then presented by Mr. James Orr and Ms. Linda Henderson of Oakland Community College. All aspects of cognitive style mapping were pursued in depth.

The project director and a project associate visited Oakland Community College to discuss the project with Dr. Hill in terms of guidelines and suggestions for its development. Continued cooperation and consultation services were discussed.

Mr. Orr returned for another one-day session to review the survey revisions developed by Niagara Falls and to present a more extensive discussion of interpretation and prescription.

A project associate attended a formal Oakland Community College cognitive style mapping workshop held at Corning Community College, Corning, New York. The workshop was conducted by faculty members of Oakland Community College.

DEVELOPMENT OF THE A.B.E. COGNITIVE STYLE MAPPING INSTRUMENT

Although the concept of cognitive style mapping developed by Dr. Hill is highly applicable to the adult education student, the existing survey and battery of tests given the community college students is not suitable for the A.B.E. population. The primary drawbacks consisted of vocabulary level, lack of relevant situations for the A.B.E. student's background and experience and the time required to administer an extensive battery of tests.

Using the Oakland model as a starting point, the project staff began the task of adapting and rewriting to produce two surveys deemed appropriate for the A.B.E. student. Details of these surveys may be found under PROJECT DESCRIPTION - SURVEYING METHODS. Every effort was made to ensure the maintenance of the original concepts of cognitive mapping. Wherever possible, vocabulary levels were lowered and the length of statements were reduced. Survey statements representing realistic situations that the A.B.E. student could empathize with were substituted for the original community college card sort. Attempts to make the statements as "culture-free" as possible were employed.

Oakland Community College utilizes a computerized scoring system for its battery of tests. This approach is not possible in the adult education center. Thus, tallying procedures and forms also had to be developed that would be complete as well as efficient. The necessity for keeping adequate data collection banks also was a factor in the design of the forms.

FIELD TESTING THE COGNITIVE MAPPING SURVEY INSTRUMENT

Before administering the cognitive survey developed by the Niagara Falls project staff to adult education students at the Whitney Avenue Adult Education Center, field testing of the card reader instrument was conducted at LaSalle Senior High School, Niagara Falls, New York. Approximately fifty (50) basic level students with reading achievement scores of 0 - 6.9 were administered the survey using card reader machines. At the end of a two-week interval, the same students were resurveyed to assess the reliability of the cognitive mapping instrument. Collective maps showing group styles were calculated to give an overall assessment of the students' ways of searching for meaning.

DATA COLLECTION

Each student who received cognitive mapping was asked to supply certain biographical data to be used in evaluating the cognitive mapping project. Registration information included:

a) Student's name
b) Teacher's name
c) Age
d) Date of birth
e) Place of birth
f) Major geographic area of residence
g) Sex
h) Marital status
i) Race
j) Date of survey

k) Location of survey

l) Type of survey - card reader or card file

m) Student objective

n) Last grade completed

o) California Achievement Test scores (reading, vocabulary, math)

Collective cognitive maps have been devised using the above information according to a formula provided by Oakland Community College. Each collective map shows the preferred cognitive styles of a particular group as a whole based on the combination of their individual maps.

The following collective maps are completed:

a) Whitney Avenue card reader survey students

b) Whitney Avenue card file survey students

c) Buffalo A.B.E. card reader survey students

d) Albany A.B.E. card reader survey students

e) Schenectady A.B.E. card reader survey students

f) White Plains A.B.E. card reader survey students

g) Whitney Avenue card reader male students

h) Whitney Avenue card reader female students

i) Whitney Avenue card reader students (16-24 years old)

j) All priority students (male, minority, 0-4 level, 16-24 years old)

k) Individual class collective maps

l) Collective maps by race

m) Collective maps by educational background

n) Collective maps of G.E.D. vs. A.B.E. students (See Appendix IV)

Measures of central tendency including mean, median, mode, and frequency distribution were calculated for all students surveyed according to age, educational background and California Achievement Test scores. These statistics may be found in Appendix V.

ITEM ANALYSIS

In order to assess the relevancy and accuracy of the newly developed surveys, several methods were undertaken. One of the most important procedures was an item analysis.

After each individual survey is tallied by a project aide on the tally sheet, the responses are placed on an item analysis sheet for each cognitive element. Each item analysis sheet lists a single cognitive element and each statement that tests it. A check mark is then made for each statement the student responded to in the chosen area of response -- Most of the time, Some of the time, Hardly ever.

When a sufficient number of map tally sheets are recorded (a minimum of 100 surveys) an overall picture of distribution of responses for each given survey statement can be assessed. Those statements with a marked unequal distribution should be considered for revision as they may be "forcing" a particular response by the student due to the very nature of the statement. (See Appendix VI)

INVOLVEMENT OF OTHER A.B.E. PROGRAMS IN THE PROJECT

To further assess the effectiveness of cognitive style mapping and to offer a broader spectrum for evaluation, arrangements were made to map, interpret, and prescribe activities for students from other A.B.E. centers in New York State. Selection of A.B.E. programs for these activities was based on several criteria. Full-time day and evening programs were considered essential to allow sufficient periods of instruction for the students. A well-equipped learning laboratory where program alternatives could be offered the student based on his cognitive map was mandatory. To accommodate HEW project priorities, an adequate number of students of 0-4 reading level, male, minority, etc. also had to be present in each center considered. Lastly, a genuine interest in and willingness to follow through with the project's intent were required.

The Niagara Falls project staff was fortunate to receive the cooperation and conscientious efforts of the following four centers highly regarded in the field of Adult Basic Education:

The Albany Adult Learning Center
222 South Pearl Street
Albany, New York 12202
Garrett Murphy, A.B.E. Coordinator

The Adult Learning Center
389 Virginia Street
Buffalo, New York 14201
Jerome Yavno, Project Administrator of A.B.E.

The Washington Irving Adult Learning Center
417 Mumford Street
Schenectady, New York 12307
Edwin A. Agresta, A.B.E. Coordinator

The Rochambeau School
228 Fisher Avenue
White Plains, New York 10606
Elliot Lethbridge, Assistant Director of Adult Education
for Adult Basic Education

During the early months of the project, visits were made to the four centers by members of the project staff. Instructional personnel in each center were given an overview of the project and information concerning their involvement in it. All available students meeting HEW project priorities (0-4 reading level, male, minority, etc.) were administered the cognitive mapping survey.

The project staff returned to the Niagara Falls center to tally the results of the surveys and to write prescription sheets for each student surveyed. Return trips were made to each center to give interpretations of their cognitive maps to the students and to explain the prescriptions written for the students to the teachers. Reactions to cognitive mapping of both students and staff were carefully noted.

In the spring of 1975 a national conference co-sponsored by the Niagara Falls Adult Education Division and the New York State Education Department was held in Niagara Falls. Administrators and key support personnel from each of the four centers attended and received training from the Oakland Community College personnel. Later, each of the four centers returned for a follow-up workshop held by the Niagara Falls project staff prior to the centers beginning their own pilot projects in cognitive mapping. (See Staff Training and Implementation for workshop particulars and Appendix VII.)

The following listing of pilot project expectations and guidelines for participating centers was developed:

1. The target population and priorities in the project were 0-4 reading level, English-speaking, minority, welfare recipients, unemployed, underemployed, undereducated, male. Students in the project were to fit the priorities as much as possible.
2. Niagara Falls' material on cognitive mapping was to be kept secure and not distributed to other than participating personnel. Interpretations and prescription writing were to be limited to those people who had received training at follow-up workshops with the Niagara Falls staff.
3. Each center was asked to establish an experimental group and a

control group. In the event that two separate classes were not feasible, twenty students would be appropriate (10 experimental and 10 control).

4. The experimental group was to be mapped.
5. The control group was not to be mapped.
6. The experimental group was to be given the alternatives based on the mapping results.
7. The control group was to be given the usual A.B.E. instruction.
8. Demographic information collected was to be recorded on forms provided (see Appendix VIII).
9. Prescriptions were to be written on forms provided utilizing the modes of understanding provided by the Niagara Falls staff.
10. Student reactions to the interpretations were to be solicited and results recorded on forms provided.
11. Student reactions to the interpretations were to be solicited and results recorded on forms provided.
12. The lengths of the individual interpretations were to be recorded.
13. Any problems encountered regarding cognitive style mapping and time schedules were to be recorded and described.
14. Any administrative problems, staff problems, staff development problems, etc. that were identified for this project were to be recorded.
15. Any additional financial needs encountered during the project were to be recorded.

16. Each center was to determine the most feasible time slot for mapping respective of its individual needs, i.e. during intake, after one week, on a need basis, other.

17. Each center was to assess which of the staff members (counselor, lab specialist, etc.) were best suited to work in this area i.e. Should additional personnel be hired?

18. Any problems with implementation of prescription alternatives were to be recorded i.e. Are existing materials in the program adequate?

19. Any observable changes in attitude among students in the experimental group regarding A.B.E. were to be recorded.

20. Any significant data regarding retention rate and attrition rate in the experimental group vs. control group were to be recorded.

Each center submitted in writing an evaluation of their involvement in the cognitive style mapping experience and evidence of its replicability in other A.B.E. centers. (See PROJECT RESULTS AND RECOMMENDATIONS).

THE BROCHURE

A twelve-page pamphlet for use in general mailings and distribution at presentations was conceived and written by the project staff. It was intended to give a general overview of cognitive mapping, its origins and development in adult basic education. Written in inquiry and response form, it addresses itself to the following questions:

What is cognitive style mapping?

How did cognitive style mapping originate?

How are the students' cognitive styles surveyed?

What is a cognitive style map?

What three areas are explored in cognitive style mapping?

What is a prescription?

How will cognitive style mapping and a taxonomy of matching reading program alternatives benefit the adult education student?

OTHER FIELD TESTING

Educational personnel at the Attica Correctional Facility were contacted regarding participation in the project due to the availability of project priority students. Attica offers a comprehensive educational program with learning lab facilities to all its inmates.

Mr. John Carll, Director of Education, arranged visitations for project members to the educational facility. Thirty inmates at the 0-4 level were mapped and given interpretations. Written prescriptions were completed and presentations to staff and students were made.

Attica staff members visited the Niagara Falls Center and one individual returned to attend a training workshop held in the spring.

This collaboration between adult education and the correctional facility was a most broadening experience which added a new dimension to the project.

THE TAXONOMY

Prior to starting formal work on the taxonomy, the project staff spent considerable time reviewing professional educational literature concerning cognitive styles, learning styles, cognition, prescription, adult curriculum guidelines and programs and materials suitable for adults.

With this background and the background and training in cognitive style mapping, the project staff began to formulate plans for the taxonomy of programs and materials for adults at the 0-6 (grade) reading level available at the Niagara Falls Adult Center.

A committee consisting of classroom, learning laboratory and project personnel experienced in cognitive style mapping was formed to develop probable modes of understanding for the taxonomy materials. Each taxonomy entry was evaluated with respect to its grade level, format, and use in individualized instruction.

Because of the variance of programs within each hardware and software category, it was necessary to refine the cognitive elements of the mini-map. To indicate to what degree each element was recommended, a system of asterisks (*) and primes (') was developed. Minor orientations were indicated by a prime e.g. T'(AL) . The degree of strength of major orientations was indicated by asterisks from one (*) to three (***).

e.g. Educational Developmental Laboratory
Listen and Read Cassette EA

T(AL)**		F* I*		M**
T(VL)**				R*
Q'(A)	X		X	
Q'(V)				
Q(CET)*				
Q'(CKH)				

When using the probable modes of understanding included in the taxonomy, the following cautions should be noted:

a) the probable modes of understanding stated are for individualized use of the materials; for group use the probable modes of understanding may change

b) the probable modes of understanding are to be considered as suggestive rather than definitive

c) the probable modes of understanding are provided to show those elements necessary to the completion of the task; however, a perfect match between student map and the mode of understanding is not always necessary due to augmentation

The committee recommended that the use of probable modes of understanding for prescription purposes be restricted to those individuals who have received formal training in cognitive style mapping and are experienced in its use. For those who have not had training, it is hoped that an awareness of the cognitive elements inherent in the use of the instructional materials will be gained.

The taxonomy was organized in the following manner:

I. HARDWARE
   a. Cognitive Category
   b. Subject
   c. Publisher
   d. Level
   e. Title

II. SOFTWARE
   a. Cognitive Category
   b. Subject
   c. Publisher
   d. Level
   e. Title

III. TECHNIQUES (grouping)
   a. Cognitive Category

b. Subject

IV. TECHNIQUES (instructional activities)

a. Cognitive Category

b. Subject

V. EVALUATION METHODS

a. Cognitive Category

The taxonomy also includes a glossary of terms pertinent to cognitive style mapping, definitions of cognitive style mapping elements, a description of how cognitive modes of understanding were established and used for materials, techniques and evaluation methods, and alphabetical listing of publishers. (See Appendix IX.)

The listing of materials in the taxonomy is not a complete listing of materials available on today's market; nor is it an endorsement of the products, but rather a cataloging of materials in use to some degree at the Niagara Falls Adult Education Center at the present time. Many of the materials listed were developed specifically for adult students. The remaining materials listed were developed for elementary/secondary school students but were adaptable for adult students.

DISSEMINATION ACTIVITIES

Many innovative ideas, processes, and materials have been developed for adult education. The extent of their use by other adult education programs depends upon the degree of replicability and the various modes of dissemination available. Dissemination is essentially a process of communicating information about what has been or is about to be produced, how effective the product/process is in actual use, how it can be obtained and ways to implement in existing programs. Awareness of the product/process can be created through some of the following methods:

a) Brochures

b) Convention and seminar presentations

c) Publicity in professional and commercial publications

d) Linkages with colleges/universities

e) Listing in national retrieval systems

The more complex and intangible the product/process, the more difficult it becomes to disseminate effectively. For this reason training workshops, on-site visits and trainer follow-up visits for evaluation purposes are an important part of the dissemination activity.

From the beginning of the project, dissemination activities have taken place which have created both an awareness and an interest in cognitive style mapping for the adult student. These activities have included:

a) The development and distribution of a brochure.

b) Presentations on local, state, and regional levels.

c) Publicity in local newspapers; state, national and commercial publications.

d) Work with adult students at other adult learning centers in New York State

e) Training workshops for instructional personnel at the Niagara Falls center as well as other centers in the state.

f) Attendance at workshops with Dr. Hill and Oakland Community College.

g) Mention of this project by Oakland Community College consultants in their many presentations around the United States and Canada. See Appendix X for specific activities.

PROJECT RESULTS AND RECOMMENDATIONS

This section deals with the results, findings and recommendations of the project. In an attempt to evaluate the success of cognitive style mapping in A.B.E. programs in as thorough a manner as possible, the results, conclusions and recommendations stated reflect the combined efforts, experiences and thoughts of the A.B.E. staff in Niagara Falls and the staffs of the four participating A.B.E. centers of Albany, Buffalo, Schenectady and White Plains.

To provide the reader with the appropriate background for reading this section, the objectives of the project are stated.

OVERALL GOALS OF PROJECT

1. To orient staff members to cognitive style mapping.
2. To identify the preferred cognitive styles of individuals in A.B.E. programs.
3. To use the results of cognitive style mapping for properly matching the students' cognitive style to the modes of instruction currently available in A.B.E. learning centers.
4. To investigate beginning reading and related language arts programs for adults which can be implemented in A.B.E. programs.
5. To assess the effectiveness and practicability of cognitive style mapping in an A.B.E. program,

SPECIFIC OBJECTIVES

1. To provide the Niagara Falls project staff with orientation and formal training in cognitive style mapping. They would subsequently be available to conduct programs of orientation in cognitive style mapping to A.B.E. teachers in Niagara Falls as well as elsewhere.

2. To develop instruments which could be used for mapping the cognitive styles of A.B.E. students.
3. To select standardized tests which are timed, to be used for the measurement of students' theoretical knowledge in the areas of verbal analogies, verbal listening, reading comprehension, grammar test, mathematics computation, and auditory discrimination as related to mathematics.
4. To enable staff members to place new students in the modes of instruction which are available or will be made available for target students to achieve success in the learning of basic educational skills, i.e. reading, mathematics and life skills.
5. To evaluate existing staff, facilities and grade level 0-4 reading and related language arts programs available in Niagara Falls which will match the results of the cognitive mapping instrument.
6. To identify and investigate alternative or optional programs being used in New York State and elsewhere.
7. To develop a taxonomy of alternative methods and materials which can be implemented by any A.B.E. learning center.
8. To conduct pre-service and in-service programs for staff members which will familiarize them with alternative programs and materials for the target students at the 0-4 reading level.
9. To conduct pre-service and in-service programs for staff members concentrating on reading skills and activities.
10. To concentrate recruitment efforts on the target population in question. Paraprofessional recruiters will be employed to coordinate the recruitment aspects of the program.

11. To field test the cognitive instrument and related alternative reading programs with individuals in the target population currently in the A.B.E. program in Niagara Falls and elsewhere.

12. To disseminate locally, regionally and nationally, information regarding the project via presentations, publications and mailings.

SUMMARY AND CONCLUSIONS

Keeping the objectives of the project in mind, the Niagara Falls A.B.E. staff involved itself in a three phase goal; development, research and implementation. Although the time limitations and the complexity of the tasks prevented as thorough (a completion) of all three phases as was desired, some interesting findings have been observed which can be used as guides for further study. The findings have implications for A.B.E. programs throughout the country.

1. It was the consensus of the five participating centers that marked changes in attitudes among the students were observed in the experimental groups. Many students were more open in showing their feelings about their prescribed instructional programs with accompanying materials and were more interested in participating in the planning of their individual programs.
2. Students became more realistically aware of their learning preferences, and showed an increased interest and concern in wanting to reach their goals. They became more interested in how they could reach their goals as well as how soon.
3. A summary of comments indicates that most of the students involved in the project enjoyed the added attention they were receiving and began to work more diligently having felt "special". As always, this attitude has profound implications in working with disadvantaged people whose self-concept is generally negative.
4. Those in the experimental groups which received the survey appeared generally to have better attendance patterns than those in the control

groups. The period of research time was not long enough to gather conclusive evidence regarding attendance results.

5. It was the general feeling among staff members that a better rapport with students was established as a result of the map interpretations.
6. Cognitive style mapping has enabled the instructional staff to better match the preferred learning styles with appropriate instructional methods and materials and to properly place students in individualized and small group instruction.
7. The learning laboratory specialists have found the cognitive maps to be an invaluable tool in the initial orientation to the learning laboratory.
8. Immediate information about each mapped student was available at intake for counselling and instructional purposes. It has been found that A.B.E. students who meet with learning success from the date of entry in the program tend to remain in the program longer than those who experience learning difficulties. Immediate information about how a student prefers to learn enables the instructional staff to properly plan the instructional program virtually from the point of intake.
9. Counsellors have indicated that the cognitive map results have been extremely helpful during the counselling process. The information has provided a "common ground" between the counsellors and the students.
10. Because immediate information about the student is imperative for the development of instructional strategies, it was the concensus of the participating centers that the best time to administer the cognitive survey is during the intake activities.
11. The impact of cognitive style mapping was greatest when map interpretations

were given soon after survey administration.

12. Students appeared to be more motivated because of the extra attention they received.
13. In general, students indicated that they felt more comfortable with what they were doing. They also felt that they were making noticeable progress. In most instances student interest in learning seemed to increase.
14. Several hundred students were mapped. With the exception of three negative reactions there was no adverse student feeling to the survey. Students overwhelmingly enjoyed the survey and follow-up interpretations.
15. The survey results became valid through student input during the interpretations. The map changes were minimal.
16. Through observations and informal discussions staff members felt that the students' self-image had improved and that they seemed to be working harder because "someone was beginning to realize *why* they weren't learning up until this time". The participating centers reported that students felt gratified, important and comfortable because they got personal and invididualized attention.
17. It was the consensus of the participating centers that students "opened up" and established a better rapport with the staff as a result of the mapping.
18. Two of the centers reported that the cognitive style mapping process appeared to work better with higher level students rather than with beginning readers.
19. All of the staff members involved in the project (including the participating centers) were enthusiastic and positive in the use of

cognitive mapping. This has implications for future teacher training programs and for those interested in using cognitive mapping. Positive attitudes on the part of the staff are important benefits in any program.

20. The Cognitive Style Mapping project has given increased status to the local adult education program through the attention it has attracted nationwide. It has helped serve as a magnet for students to the program.

21. Although this project was concerned mainly with reading and related language arts skills, the cognitive style mapping survey has also provided information about the students' quantitative thinking and skills.

22. The Taxonomy of Reading Alternatives that was developed has provided staff members with a comprehensive resource file of existing adult educational materials in use at the Niagara Falls Adult Education Center, both software and hardware, for use in prescribing instructional activities matched with each individual's level of educational development and preferred cognitive style. Each taxonomy entry was evaluated with respect to its grade level, format and probable mode of understanding (a mini-map of the set of suggested cognitive elements advantageous to the performance of an educational task).

SPECIFIC RECOMMENDATIONS

This project has permitted the exploration of a process that could have notable implications in the field of Adult Basic Education. It is the consensus of the Niagara Falls A.B.E. staff that cognitive style mapping could significantly improve the instructional process for the adult student.

During the project year, a number of variables have been identified. The variables suggested in this section are of importance in any implementation and modification efforts undertaken in the future.

1. Although the survey was developed for project target population at 0-4 grade reading level, it was found that the cognitive information was valuable for students at all levels. In fact, it was found that the cognitive survey results were more accurate for the upper level adult student upon interpretation of results. It was found that the target population adult tended to answer the survey questions as he *wished* he could do things rather than how he actually could perform certain tasks.

   For a more accurate assessment of the theoretical orientations section for the 0-4 reading level student, specific tasks should be developed for testing each cognitive element or group of elements by actual performance rather than having students react to a series of statements. It should be noted that a 0-4 reading level adult student can indicate a major preference for reading even if he has few or no basic reading skills. He can have a preference for reading at his level of educational development, e.g. a major T(VL) with a reading level of 1.5. It is important for the lower reading level adult student to understand this concept for instructional purposes.

3. The scheduling of the mapping session is of prime importance since the instructional staff needs the information regarding the student as soon as possible to allow for effective educational prescribing. It is recommended that the survey be administered as part of the intake procedures. The level of educational development in reading and mathematics which is determined at intake must be included with the results of the survey for interpretation purposes.
4. Since it was recommended that the cognitive survey become part of the intake testing procedures, it is suggested that the same considerations be given to the student as in any good testing situation, e.g. a quiet room, someone available to answer questions concerning the test, etc.
5. Since it was found that the greatest impact was achieved when the survey was followed up by a conference and map interpretation with the student, it is suggested that the conference take place as soon as possible. The size of the program and number of available staff members will determine the schedule of conferences. Conferences can be either scheduled for the student by the staff or scheduled on a sign up basis by the student.
6. Map interpretations should be conducted by the cognitive style mapping professional staff. Programs with limited staff and resources may find it necessary to use existing staff for interpretations and implementation of cognitive style mapping results.
7. It was suggested by the participating centers that programs desiring to use cognitive style mapping receive training during the summer to be prepared for the start of the Fall program which is generally when the influx of students is the greatest.

8. Because cognitive style mapping is a specialized procedure requiring specific background and knowledge in the educational sciences, it is recommended that programs be required to receive formal training in the total concept and process before attempting its use.

9. Programs using cognitive style mapping should establish linkages with each other for purposes of communication and sharing ideas, research findings and innovative practices.

10. Periodic updating of cognitive style mapping skills should occur through activities such as conferences, training workshops, subscribing to professional journals, and becoming active in professional organizations related to cognitive style mapping.

11. Based on the experiences of the project staff, it is recommended that a proper level of funding be available for the additional staff (both professional and paraprofessional) necessary to conduct activities relevant to cognitive style mapping. The level of funding must also be able to accomodate the required equipment and materials for cognitive style mapping. The participating centers reported that many problems were experienced because activities were being carried out by existing staff rather than additional staff members. They felt that cognitive style mapping should become another component in the Adult Basic Education program with separate staff members. The size of the cognitive style mapping staff would be determined by the size and needs of the Adult Basic Education program.

12. Every Adult Basic Education instructional staff member should be trained in cognitive style mapping so that implementation for the student can take place in all components such as counselling, Learning Laboratory, classroom, and the Life Skills Laboratory.

13. Continuous student feedback and input needs to be obtained as part of the evaluation process through informal discussions, conferences, or written reactions.

14. An evaluative survey should be administered to students to obtain reactions to the cognitive style mapping process at the end of a predetermined block of instructional time.

15. Pre-service and in-service programs should be conducted for the instructional staff to assist them in becoming familiar with materials and methods and the related probable modes of understanding. This will enable them to develop effective strategies for working with the students.

16. Continuous feedback and input needs to be obtained from instructional personnel as part of the evaluation process through informal discussions, conferences and written reactions.

17. An evaluation questionnaire should be given to teachers and support staff at the end of the program year to obtain reactions to the cognitive style mapping process and effectiveness of its implementation.

18. An evaluation of cognitive style mapping relative to achievement gains should be made through the use of pre and post tests and control and experimental groups.

19. For teacher and student use, each piece of material in the Learning Laboratory should be labeled with its probable mode of understanding.

Adult Basic Education programs are continually seeking means to improve the instructional process. It is believed that cognitive style mapping may well be one of these means. There is no question that a student will respond better to instructional methods and materials which he prefers.

The results obtained through the experimental use of cognitive style mapping in Niagara Falls and other participating programs give every indication that cognitive style mapping has excellent possibilities for success.

It is believed that the procedures developed can be easily replicated and the product can be used in adult education programs throughout the United States.

In the field testing of the process and materials developed in Niagara Falls, it was found that the concept proved to be workable, manageable and effective. There was unanimous enthusiasm on the part of the instructional personnel as well as the participating students.

Cognitive style mapping has provided a new insight into the whole process of working with the adult student.

The recommendations stated above include several conditions vital to the success of the implementation of cognitive style mapping. Not the least of which are adequate funding and staff.

The New York State Education Department has permitted a continuation of this project by funding the project for the 1975-76 fiscal year. This makes possible further research and implementation begun during 1974-75.

It was the intention of this project to give professional personnel responsible for instructional programs a rationale for an additional approach to be used in the teaching-learning process. Through this process, the opportunities and probabilities for success can be enhanced.

Furthermore, through cognitive style mapping the individual can be provided a greater opportunity to participate in the assessment of his own needs and he can have a greater voice in determining his own prescription of instruction.

Cognitive style mapping could very well be part of a very exciting breakthrough in adult education.

APPENDIX LISTING

I Niagara Falls Adult Basic Education Activities

II Intake Cycle

III Cognitive Cycle

IV Collective Maps

V Measures of Central Tendency

VI Item Analysis

VII Adult Basic Education Workshops in Cognitive Style Mapping

VIII Demographic Information and Charts Showing Numbers Surveyed at Each Center

IX A Taxonomy of Reading Alternatives (Sample Pages)

X Dissemination Activities (Correspondence, Publicity and Visitors)

APPENDIX I

Niagara Falls A.B.E. Program Activities

Some of the activities in whcih the Niagara Falls A.B.E. program has been engaged include the following:

1. Conducted an all day workshop for area industrialists on working with the disadvantaged.
2. Conducted a study for the Department of Social Security on writing the Federal booklet Joe Wheeler Finds A Job.
3. Conducted the first N.A.B. program in New York State.
4. Served as a center for observation, demonstrations, visitation, video taping and presentation for the A.B.E. Teacher Training Institute held at the University of Buffalo.
5. Conducted workshops for the Niagara University Community Actions Program in working with the disadvantaged.
6. Provided the education component for the JOBS Program in Niagara County.
7. Served as a test center for Columbia University's Life Skills Project.
8. Niagara Falls established the first adult learning laboratory in Western New York.
9. Served as a training center for the training of learning laboratory personnel in A.B.E. programs in Buffalo and Rochester for purposes of establishing learning labs in those communites.
10. Served as a training center for the Albion, New York, Correction Center, the Masten Park Rehabilitation Center in Buffalo, New York; Niagara County Community College, and the University of Buffalo Reading Department for purposes of establishing learning labs in those locations.

11. Conducted workshops in the use of multi-media materials and individualized instruction for school administrators in Western New York.

12. Conducted workshops for Niagara Falls reading teachers in the multi-media approach to teaching reading.

13. Numerous presentations have been made at state and regional A.B.E. conferences.

14. Numerous curriculum items have been developed such as diagnostic tests, handbooks, and reading guides in GED and ABE.

15. Made presentations at workshops such as a workshop in individualization of instruction for the Greece, New York, Adult Education Program.

16. Has been recommended by the Bureau of Basic Continuing Education, N.Y. State Education Department, Albany, New York, as a model center for adult basic education and as a result, hundreds of visitors have observed the operation.

APPENDIX II

Intake Cycle (1-3 days)

INTAKE CYCLE (1-3 DAYS)

I. Orientation and overview of program
   A. Official welcome to the center
   B. Definition of student objectives (short and long term)
   C. Explanation of enrollment procedures and the testing program
   D. Description of the program, including the function of the guidance department, reading lab, class structure, curriculum, etc.
   E. Outline of school regulations and schedules
   F. Issuance of student handbook

II. Completion of official registration form

III. Tour of center

IV. Administration of Botel Reading Locator Test

V. Administration of California Achievement Test in reading and mathematics

VI. Interpretation of test results - strengths and weaknesses and discussion of possible instructional options

VII. Cognitive survey administered

VIII. Student data and test results are given to teacher

IX. Student introduced to teacher and placed in class

EARN A HIGH SCHOOL DIPLOMA

Enroll Now in an
Adult Education
Class-Day or Evening

FREE

Register at the Whitney Avenue
Adult Education Center
Mon.-Fri. 9-12 noon
Mon.-Fri. 12:30-3:30 pm
Mon., Wed., Thurs. 7-10 pm

V.A. APPROVED

Free for persons 16 and over
and out of school
For details call
Niagara Falls
Board of Education
285-5251 Ext. 225

G. E. D. EXAM

(High School Equivalency)

I. FIVE PARTS

- A. Correctness and Effectiveness of Expression (English)
- B. Social Studies
- C. Science
- D. Literature
- E. General Math Ability

II. GENERAL INFORMATION

- A. Ten-hour examination (3 sittings)
  - 1. Friday Evening - 5:45 p.m. (2 parts)
  - 2. Saturday Morning - 8:45 a.m. (2 parts)
  - 3. Saturday Afternoon - 2:00 p.m. (1 part)
- B. Eligibility
  - 1. 19 years of age or older
  - 2. Between 17-19 and out of school one year
  - 3. Between 17-19 and your class has graduated
- C. Multiple choice questions (IBM Answer Sheet)
- D. 75 points in each part. Perfect exam score is 375
- E. Total score of 225 with no single score below 35
- F. Tests scored in Albany (results take 6-7 weeks)
- G. Retesting (minimum two-month waiting period)

ADULT BASIC EDUCATION STUDENT RECORD FORM

Name ____________________ Project ____________ AM ____ PM ____ Eve. ____
Last First Middle

Address ____________________ Date of Entry ____________

Phone ____________ Age ______ Sex ______ Vet ______ Teacher ____________

Date of Birth ____________ Place of Birth ____________ Social Security Number ____________

Referral ____________ Driver's License ____________ Welfare Number ____________

Marital Status ____________ Head of Household ____________ No. of Children at Home ____________

Language Spoken ____________ Citizen ____________ Received Citizenship ____________

Health Condition ____________ Received Help Tax Form ____________ Initial Test READ ________ MATH ________

Disability ____________ Voter New ________ Pre ________ Post ________.

Medicine ____________

Doctor ____________

In Case of Emergency Notify:
Name ____________
Address ____________
Phone ____________

Specify M & F and Age in Grouping

	Am.Ind.	Black	Orient.	P.R.	Mex.	Sp.	Other
16-24							
25-34							
35-44							
45-54							
55-64							
65+							

Work Experience - Most Recent - Date - How Long

Previous Experience ____________

Other Skills and Interests ____________

Highest Grade Completed ____________

Year ______ Location ____________

Short Term Goals ____________

Long Term Goals ____________

____

Circle Initial Placement

ESL	1	2	3	4
ABE Beg.	1	2	3	4
Inter.	5	6	7	8
GED Adv.	9	10	11	12

Passed H.S. Equivalency

Yes ____ No ____

Date ____________

Score ____________

Separation Data

Check One Only

- Take a Job ____
- Take a Better Job ____
- Enter Train. Prog. ____
- Met Personal Obj. ____
- Lack of Interest ____
- Health Problem ____
- Moved from Area ____
- Transportation Prob ____
- Child Care Prob. ____
- Family Problem ____
- Employment Conflict ____
- Other Known Reason ____
- Unknown Reason ____

More Than One Column May Be Used

- On Welfare ____
- Off Welfare ____
- 8th Grade Diploma ____
- Enrolled GED ____
- Passed GED ____
- Grad. Reg. H.S. ____
- Enter Higher Ed. ____
- Enter Other Prog. ____
- Job Upgraded ____
- Obtained Employ. ____
- Obtained Obj. ____

RECORD OF	TEST	DATE	READ		MATH		HOURS	TEACHER	COMMENTS
INITIAL TEST									
HRS.									
HRS.									
HRS.									
HRS.									
HRS.									
HRS.									
HRS.									
HRS.									

N. Y. State Min. Comp. test results - READ _____ MATH _____

Entering GED from ABE-Entry Date ____ Has student previously taken GED? _____

GED

Diagnostic test results - ITED Y-4 Subtests: ___ ___ ___ ___ ___
3 4 5 6 7

Predictive test results - ITED X-4 Subtests: ___ ___ ___ ___ ___
3 4 5 6 7

Date student referred to GED ________ Program Code ________

GED results:

1. Date of first test ______ Test Center ____________
#1 ___ #2 ___ #3 ___ #4 ___ #5 ___ Total ______

2. Date of second test ______ Test Center ____________
#1 ___ #2 ___ #3 ___ #4 ___ #5 ___ Total ______

3. Date of third test ______ Test Center ____________
#1 ___ #2 ___ #3 ___ #4 ___ #5 ___ Total ______

4. Date of fourth test ______ Test Center ____________
#1 ___ #2 ___ #3 ___ #4 ___ #5 ___ Total ______

READING LABORATORY STUDENT RECORD

NAME:

ADDRESS:

TELEPHONE

TEACHER:

C.A.T. Scores:

DATE: LEVEL: R V A-1
1
2
3
4

BOTEL FORM

DATE:

GENERAL COMMENTS:

Difficulties:

Prescription:

DATE: MATERIAL

APPENDIX III

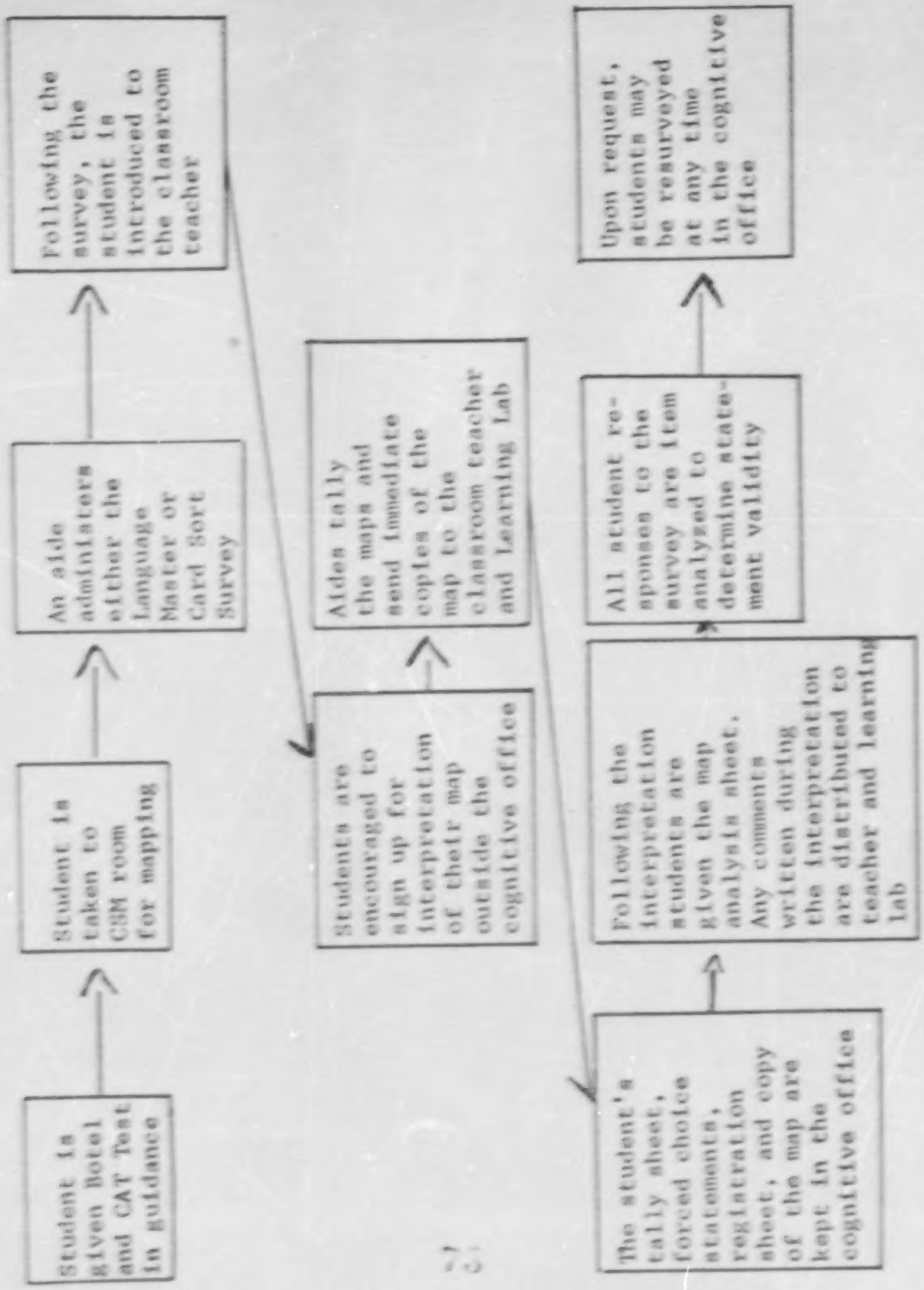
The Cognitive Cycle

THE COGNITIVE CYCLE

1. Overview of program and registration by guidance personnel.
2. Administration of Botel Locator Test.
3. Administration of California Achievement Test in reading and mathematics.
4. Administration of cognitive survey using either the card reader (language master machine, levels 0-6) or the card sort (level 7 and up).
5. Student introduced to teacher and placed in class.
6. Tallying and mapping of student survey for student cognitive packet.
7. Student packet contains the following:
    - a) registration sheet
    - b) cognitive style map
    - c) tally sheet
    - d) map analysis sheet
8. Interpretation of survey results using student packet.
9. Student prescriptions written using survey results
10. Student packet with personalized prescription sheet including
    - a) hardware
    - b) software
    - c) techniques
    - d) evaluation method

    distributed to guidance, teaching, and learning lab personnel.

FLOW CHART


Student is given Botel and CAT Test in guidance
Student is taken to CSM room for mapping
An aide administers either the Language Master or Card Sort Survey
Following the survey, the student is introduced to the classroom teacher
Students are encouraged to sign up for interpretation of their map outside the cognitive office
Aides tally the maps and send immediate copies of the map to the classroom teacher and Learning Lab
The student's tally sheet, forced choice statements, registration sheet, and copy of the map are kept in the cognitive office
Following the interpretation students are given the map analysis sheet. Any comments written during the interpretation are distributed to teacher and learning lab
All student responses to the survey are item analyzed to determine statement validity
Upon request, students may be resurveyed at any time in the cognitive office

Board of Education
Adult Basic Education
Niagara Falls, New York

REGISTRATION INFORMATION
FOR
309 PROJECT

STUDENT NAME____

TEACHER NAME____

AGE______DATE OF BIRTH______PLACE OF BIRTH____________________

RESIDENCE (longest period of time)____________________________

MALE_______FEMALE_______SINGLE_______MARRIED_______AM.I.,B,M,P.R.,
O,S, OTHER

DATE OF SURVEY________WHERE SURVEY GIVEN______________________

TYPE OF SURVEY - LANGUAGE MASTER____________CARD FILE____________

STUDENT OBJECTIVE____

____

LAST GRADE COMPLETED____

BOTEL LOCATOR LEVEL_______________

CAT________R________V________M________

OTHER______________________________R______V______M______

SAMPLE SIGN-IN SHEET

Whitney

____
Type of Survey

					California Test			
Name	Date	Teacher	Y	I.A.	R	V	M	N/A

SAMPLE SIGN-IN SHEET
(OUT OF TOWN)

OUT OF TOWN

____
Center

Name	Date	Type of Survey		Scores			
		L.H.	C.F.	R	V	M	I.A.

DIRECTIONS FOR ADMINISTERING THE COGNITIVE STYLE MAPPING SURVEY USING THE LANGUAGE MASTER

TO THE STUDENT:

"This is not a test. Everyone learns in his own way. Some learn better by reading than by listening. Others prefer learning from a teacher rather than learning from a book. What you are going to do will help us find out how you learn best. There are no right or wrong answers."

"These are the directions: Look at the cards in front of you. There is also a card placement sheet. The green section on your left is labeled MOST OF THE TIME, the red section SOME OF THE TIME, and the blue section HARDLY EVER. Put the card in the Language Master as I am doing and listen to the sentence. If this is the way you are MOST OF THE TIME, put the card in the green section, or if this is the way you are SOME OF THE TIME, put the card in the red section, or if you HARDLY EVER are this way, put the card in the blue section. You may put the cards through the Language Master as many times as you need. Please ask questions if you have any. Do not skip any cards. Although this is not timed, take only a few seconds per card."

SAMPLE LANGUAGE MASTER CARD

I can learn from a teacher speaking to the class.

1E

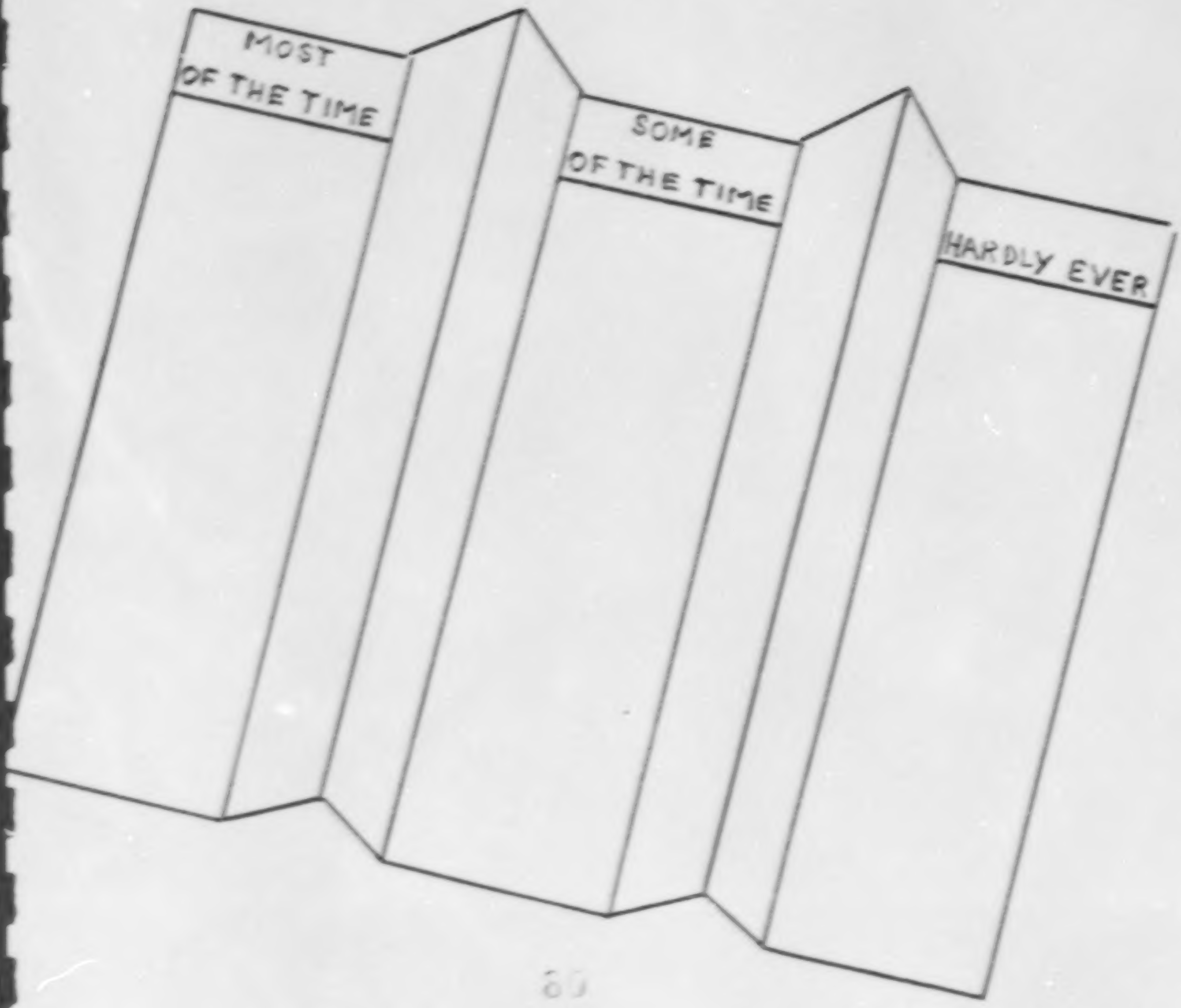
A card for the LANGUAGE MASTER ® instructional device. Manufactured by Bell & Howell Company. The LANGUAGE MASTER unit and the cards for use with it are covered by United States and Canadian Patents. Made in U.S.A.

SAMPLE QUESTION FROM CARD SURVEY

I think about the ways to solve a problem over and over again before coming to a conclusion.

26H

The student considers the statement and responds by placing the card in the section of his choice on the card placement sheet.


MOST
OF THE TIME
SOME
OF THE TIME
HARDLY EVER

DIRECTIONS FOR USE OF THE TALLY SHEET

TO RECORD STUDENT RESPONSES

1. After the student has placed the cards in the card placement sheet sections, "Most of the Time", "Some of the Time", and "Hardly Ever", the responses are recorded on the Tally Sheet. The number-letter combinations found on the lower right hand corner of the card should be used for proper placement of responses on the Tally Sheet.
2. Beginning with the "Most of the Time" stack, note the number letter combination on the top card, for example, 12F. On line 12, under the "Most of the Time" column, place the letter F in the box. Continue through the remaining cards in the "Most of the Time" stack in the same manner. After completing the "Most of the Time" stack proceed to the "Some of the Time" stack and place these responses on the correct line under the "Some of the Time" column heading. After completing the "Some of the Time" stack, proceed to the "Hardly Ever", stack and place these responses on the correct line under the "Hardly Ever" column heading.

	Most of The Time	Some of The Time	Hardly Ever		
12	F			[illegible]	

3. When the Tally Sheet is completed, there should be eight (8) items per line, letters A-H.

TO SCORE THE TALLY SHEET

1. Use the following item values:
   a. The number of items for "Most of the Time" are multiplied by 5.
   b. The number of items for "Some of the Time" are multiplied by 3.

TO SCORE THE TALLY SHEET (contd)

c. The number of items for "Hardly Ever" are multiplied by 1.

2. Total the responses recorded on each line and place the total in the box at the extreme right of the line. To illustrate:

	Most of the Time	Some of the Time	Hardly Ever		
12	A D E F	G B C	H	O(ES)	30
	(4 x 5)	(3 x 3)	(1 x 1)	=	30

TO DETERMINE MAJOR-MINOR ORIENTATIONS AND NEGLIGIBLE SETS

1. When considering each line total:

Major	28-40
Minor	16-27
Negligible	0-15

2. Cross out all negligible sets. Indicate minor sets with a prime (e.g. T'(VL))

TALLY SHEET

Board of Education
Adult Basic Education
Niagara Falls, New York

COGNITIVE STYLE MAPPING

STUDENT'S NAME ______________ DATE ______________

TEACHER'S NAME ______________ LRD - R ______ V ______ M ______

	Most of the time	Some of the time	Hardly ever		
1				T(AL)	
2				T(AQ)	
3				T(VL)	
4				T(VQ)	
5				Q(A)	
6				Q(D)	
7				Q(S)	
8				Q(T)	
9				Q(V)	
10				Q(P)	
11				Q(CEM)	
12				Q(CES)	
13				Q(CET)	
14				Q(CH)	
15				Q(CK)	
16				Q(CKH)	
17				Q(CP)	
18				Q(CS)	
19				Q(CT)	
20				A	
21				F	
22				I	
23				M	
24				D	
25				R	
26				L	

DIRECTIONS FOR USE OF THE COGNITIVE STYLE MAP

TO PLOT ORIENTATIONS ON THE COGNITIVE STYLE MAP

1. Under the first Cartesian set, the Theoretical and Qualitative symbols are plotted.
    a. Theoretical Symbols (T(AL), T(AQ), T(VL), T(VQ))
    These must be plotted according to value, the hi highest to lowest, in the top section of Symbolic Orientations. Items of equal value are plotted next to each other.
    b. Sensory Codes (Q(A), Q(O), Q(S), Q(T), Q(V)
    These items are plotted according to value, the highest to lowest, in the middle section of Symbolic Orientations. Items of equal value are plotted next to each other.
    c. Cultural Codes (Q(P), Q(CEM), Q(CES), Q(CET), Q(CH), Q(CK), Q(CKH), Q(CP), Q(CS), Q(CT))
    These symbols are plotted according to value, the highest to lowest, in the lower section of Symbolic Orientations. Items of equal value are plotted next to each other.

2. Under the second Cartesian set, the Cultural Determinants symbols are plotted.
    a. Cultural Determinants Symbols (A,F,I)
    These must be plotted according to value, the highest to lowest. Items of the same value are plotted next to each other. There can be only up to 2 majors. If all 3 are majors, the lowest is marked as a minor.

3. Under the third Cartesian set, the Modalities of Inference symbols are plotted.
    a. Modalities of Inference Symbols,(M,D,R,L)
    These must be plotted according to value, the highest to lowest. Items of the same value are plotted next to each other.

TO PLOT ORIENTATIONS ON THE COGNITIVE STYLE MAP (contd)

If all 4 are majors, the lowest is marked as a minor.

L can only be printed as a major. If it is a minor or negligible, it is not printed on the map.

4. NOTE: Negligible sets are not printed on the map.

Board of Education
Adult Basic Education
Niagara Falls, New York

COGNITIVE STYLE MAP

COGNITIVE STYLE MAPPING

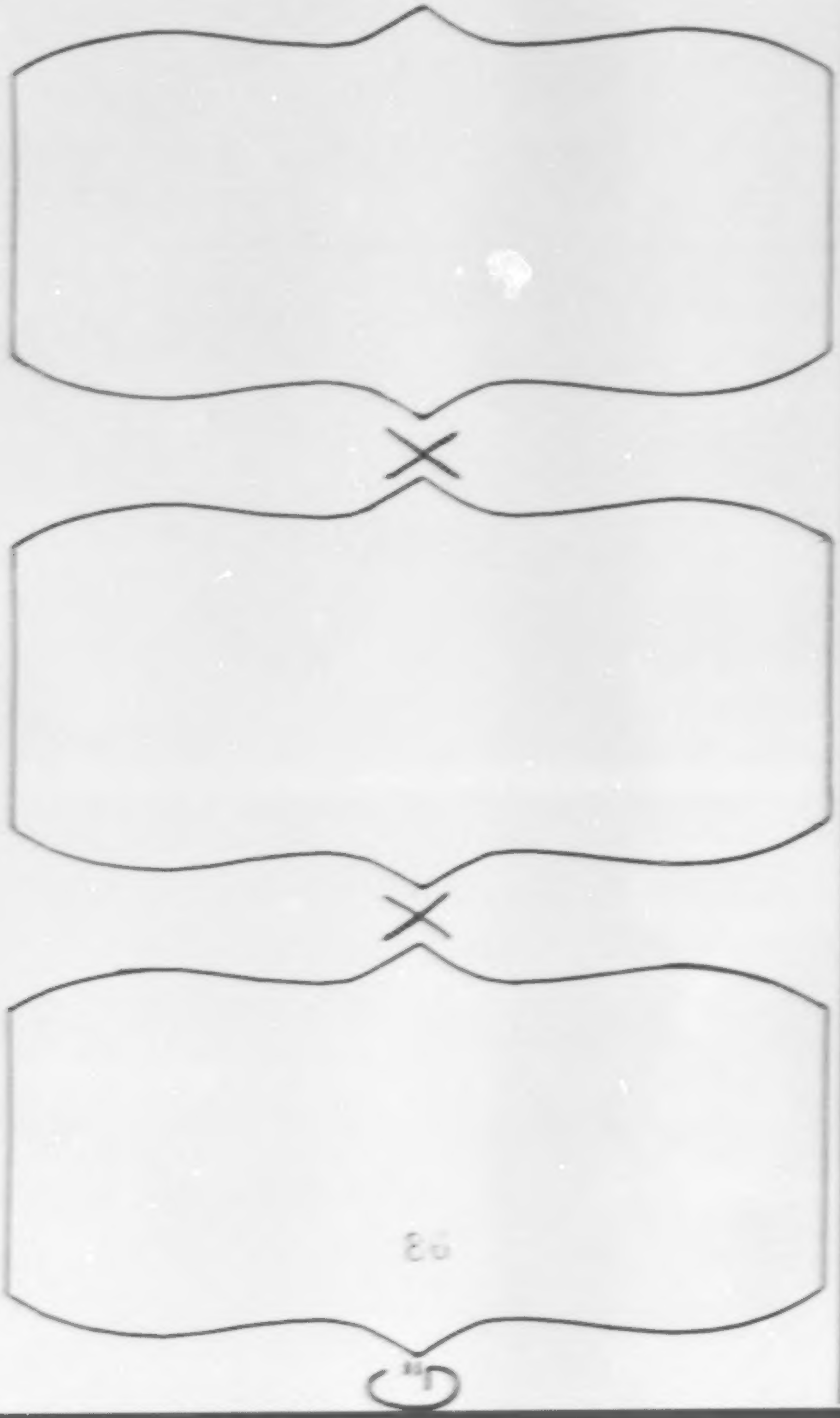
STUDENT'S NAME__________ DATE__________

TEACHER'S NAME__________ LED - R__________ V__________ M__________

SYMBOLIC ORIENTATIONS

CULTURAL DETERMINANTS

MODALITIES OF INFERENCE



COMMENTS

DIRECTIONS FOR USE OF THE MAP ANALYSIS SHEET

1. Using the Tally Sheet, each category score is entered in the corresponding box on the Map Analysis Sheet under major, minor or negligible. To illustrate, if the Tally Sheet totals appear as follows, the corresponding Map Analysis Sheet would be completed in the following manner:

TALLY SHEET

	Most of the Time	Some of the Time	Hardly Ever		
1	A B E	C F	D G H	T(AL)	24
2	G A	C E B	F D H	T(AQ)	22
3	A B C D E F G H			T(VL)	40
4		A D B	C E F G H	T(VQ)	14

MAP ANALYSIS SHEET

MAP SYMBOLS	DEFINITIONS	ORIENTATIONS MAJOR	 MINOR	 NEG.
T(AL)	Ability to acquire..............		24	
T(AQ)	Ability to acquire..............		22	
T(VL)	Ability to acquire..............	40		
T(VQ)	Ability to acquire..............			14

2. When a major is changed to a minor in the second or third set, the score is entered under the major column heading and an arrow into the minor column indicates the change.

MAP SYMBOLS	DEFINITIONS	ORIENTATIONS MAJOR	 MINOR	 NEG.
A	Seeks meaning...................	36		
F	Seeks meaning...................	28 →		
I	Seeks meaning...................	34		

Board of Education
Adult Basic Education
Niagara Falls, New York

MAP ANALYSIS SHEET

COGNITIVE STYLE MAPPING

STUDENT'S NAME ____________ DATE ____________

TEACHER'S NAME ____________ LED - R ______ V ______ H ______

MAP SYMBOLS	DEFINITIONS	ORIENTATIONS		
		MAJOR	MINOR	NEGLIG.
T(AL) Theoretical Auditory Linguistics	Preference for acquiring and communicating meaning through the spoken word.			
T(AQ) Theoretical Auditory Quantitative	Preference for acquiring and communicating meaning through numerical symbols, relationships and measurements that are spoken.			
T(VL) Theoretical Visual Linguistics	Preference for acquiring and communicating meaning through the written word.			
T(VQ) Theoretical Visual Quantitative	Preference for acquiring and communicating meaning through numerical symbols, relationships and measurements that are seen.			
Q(A) Qualitative Auditory	Ability to perceive meaning through the sense of hearing.			
Q(O) Qualitative Olfactory	Ability to perceive meaning through the sense of smell.			
Q(S) Qualitative Savory	Ability to perceive meaning through the sense of taste.			
Q(T) Qualitative Tactile	Ability to perceive meaning through the sense of touch.			
Q(V) Qualitative Visual	Ability to perceive meaning through the sense of sight.			

MAP ANALYSIS SHEET #2

MAP SYMBOLS	DEFINITIONS	ORIENTATIONS		
		MAJOR	MINOR	NEGLIG.
Q(P) Qualitative Proprioceptive	Ability to coordinate a number of behaviors simultaneously in order to perform a complex task. Indicates someone who uses initiative and intuition (sixth sense).			
Q(CEM) Qualitative Code Empathetic	Sensitivity to the ideas and feelings of others, ability for someone to put himself in another person's place.			
Q(CES) Qualitative Code Esthetic	Ability to enjoy the beauty of an object or an idea.			
Q(CET) Qualitative Code Ethic	Commitment to one's own set of values, a group of principles, obligations and/or duties. This commitment need not imply morality.			
Q(CH) Qualitative Code Histrionic	Ability to perceive expected behavior and act accordingly.			
Q(CK) Qualitative Code Kinesics	Ability to understand and use body language.			
Q(CKH) Qualitative Code Kinesthetic	Ability to perform gross and fine motor skills according to a recommended form or given model; a willingness to practice to achieve an accepted form.			
Q(CP) Qualitative Code Proxemics	Ability to judge physical and social distance between oneself and another and act accordingly.			
Q(CS) Qualitative Code Synnoetics	Ability to know oneself; one's physical, social and mental strengths and weaknesses.			
Q(CT) Qualitative Code Transactional	Ability to develop rapport with others and thereby influence them. C.J			

MAP ANALYSIS SHEET #1

MAP SYMBOLS	DEFINITIONS	ORIENTATIONS		
		MAJOR	MINOR	NEGLIG.
A Associates	Seeks and interprets meaning through interaction with associates and/or peers.			
F Family	Seeks and interprets meaning through interaction with family and/or authority figures.			
I Individuality	Seeks and interprets meaning independently through his own individuality.			
M Magnitude	A tendency to reason and behave according to established norms, rules or categorical classifications.			
D Difference	A tendency to reason and behave in terms of one-to-one contrasts or comparisons; perceives what a concept is by what it is not.			
R Relationship	A tendency to reason and behave through the combination of separate elements into a unified whole or through the analysis of an idea into its component parts.			
L Appraisal	A tendency to reason and behave using all methods of reasoning (M, D, and R) giving equal weight to each.			

STUDENT'S NAME

BOARD OF EDUCATION
Adult Basic Education
Niagara Falls, NY

Student's Name________________________________

Teacher's Name________________________________

Individual Prescription Sheet

Needs	Materials	Assignments

APPENDIX IV

Collective Maps

Board of Education
Adult Basic Education
Niagara Falls, New York

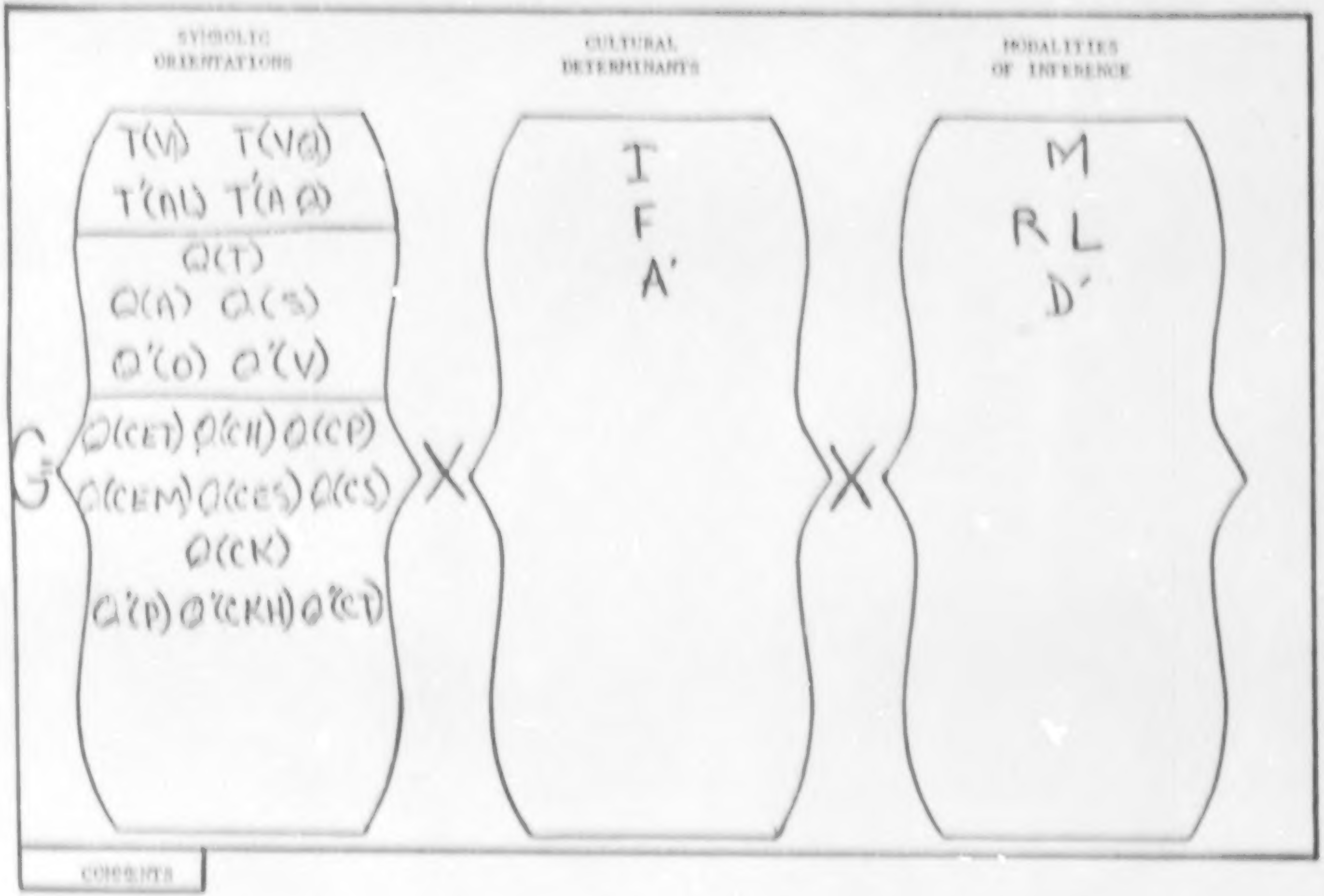
COGNITIVE STYLE MAP

COGNITIVE STYLE MAPPING

Students that have passed HSE DATE 2-21-75

TEACHER'S NAME

LED = R V M


SYMBOLIC ORIENTATIONS
T(V) T(VQ)
T'(AL) T'(AQ)
Q(T)
Q(A) Q(S)
Q'(O) Q'(V)
Q(CET) Q(CH) Q(CP)
Q(CEM) Q(CES) Q(CS)
Q(CK)
Q'(P) Q'(CKH) Q'(CT)
G
X
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COMMENTS

Board of Education
Adult Basic Education
Niagara Falls, New York

COGNITIVE STYLE MAP

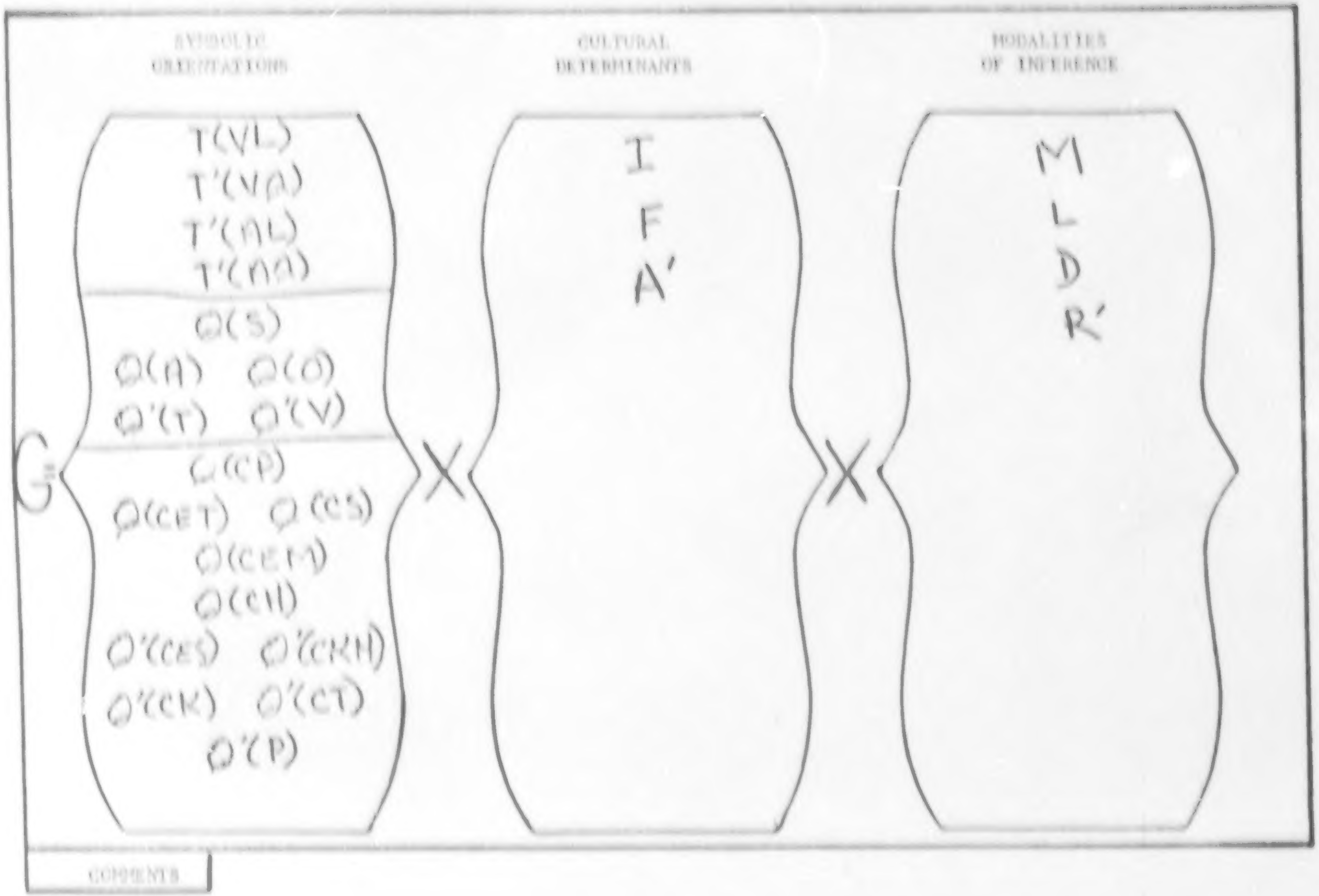
COGNITIVE STYLE MAPPING

STUDENT'S NAME Students that have failed HSE

DATE 2-24-75

TEACHER'S NAME

LED = R V M



SYMBOLIC ORIENTATIONS

T(VL)
T'(VA)
T'(AL)
T'(AA)

Q(S)
Q(A) Q(O)
Q'(T) Q'(V)

Q(CP)
Q(CET) Q(CS)
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Q'(CK) Q'(CT)
Q'(P)

CULTURAL DETERMINANTS

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MODALITIES OF INFERENCE

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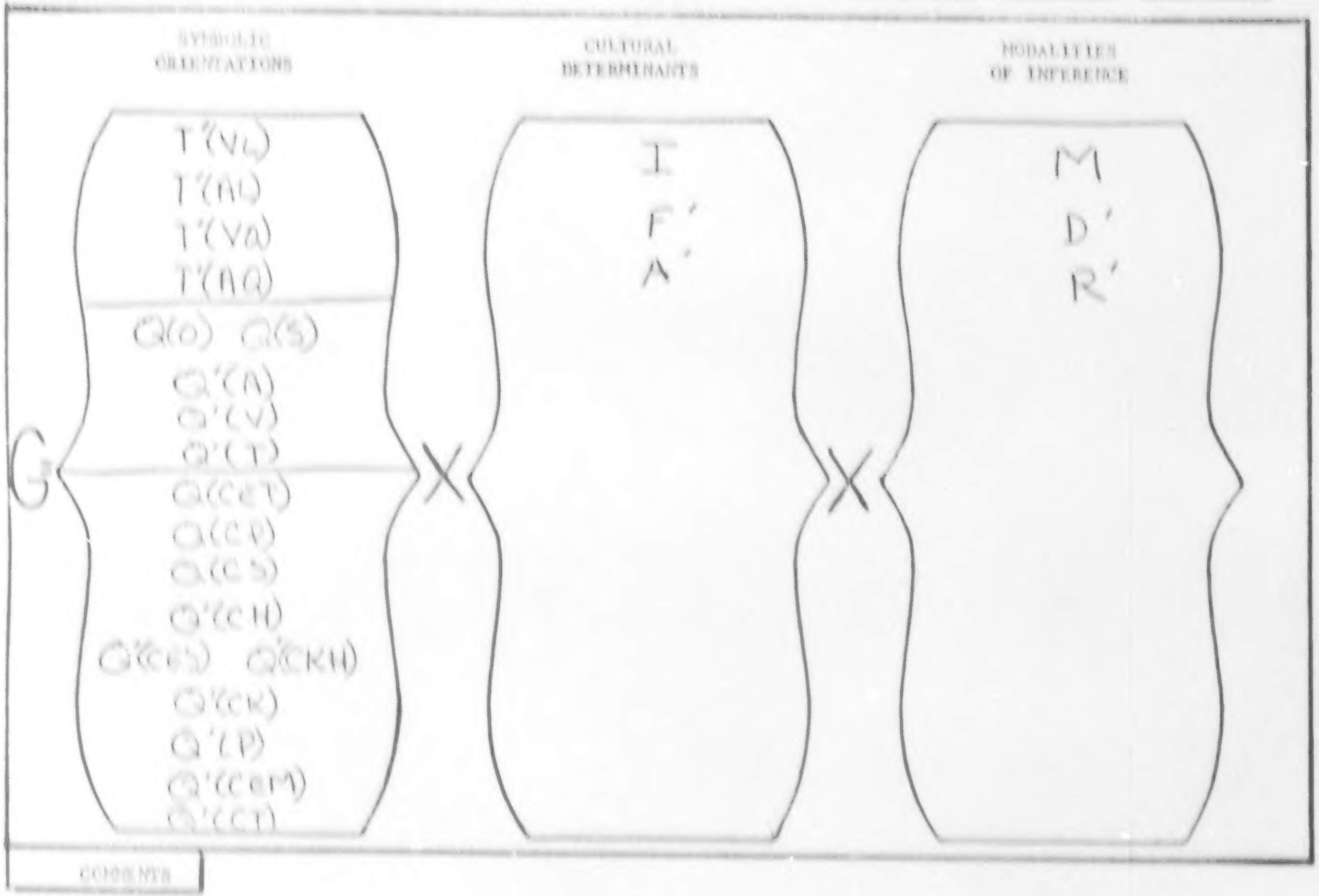
COMMENTS

Board of Education
Adult Basic Education
Niagara Falls, New York

COGNITIVE STYLE MAP

COGNITIVE STYLE MAPPING

[illegible] Whitney Ave. (C.F. Students) DATE June - 1975
[illegible] 156 - 70% = 109 [illegible] - R ____ V ____ M ____


SYMBOLIC ORIENTATIONS
CULTURAL DETERMINANTS
MODALITIES OF INFERENCE
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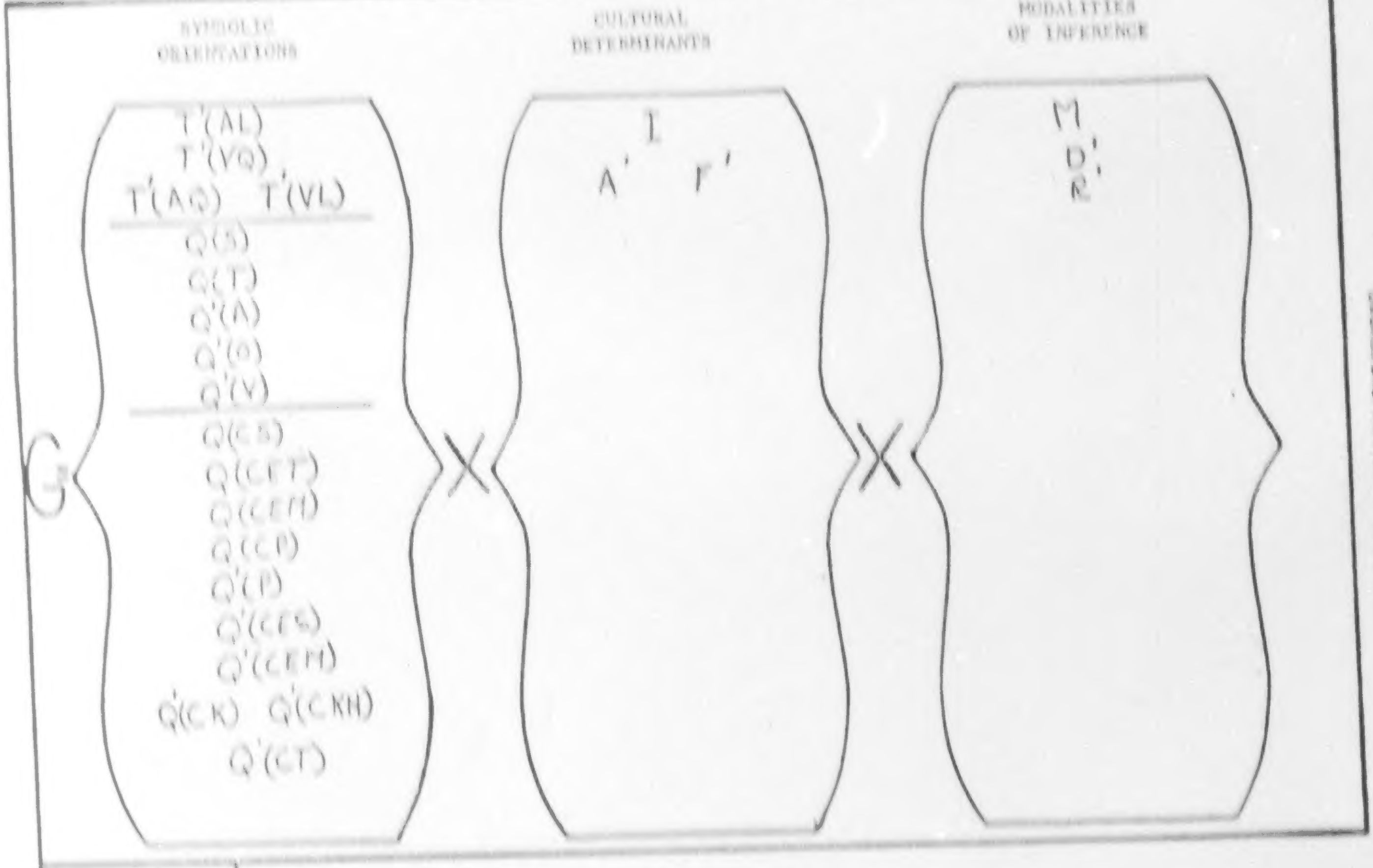
COMMENTS

COGNITIVE STYLE MAP

Board of Education
Adult Basic Education
Niagara Falls, New York

COGNITIVE STYLE MAPPING

STUDENT'S NAME Whitney Avenue L.H.
DATE September 1974 — April 23, 1975
TEACHER'S NAME 109 Students (70 - 76)
LED - R______ V______ M______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Q(S)
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Q'(A)
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Q'(CES)
Q'(CEM)
Q'(CK) Q'(CKH)
Q'(CT)
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COMMENTS

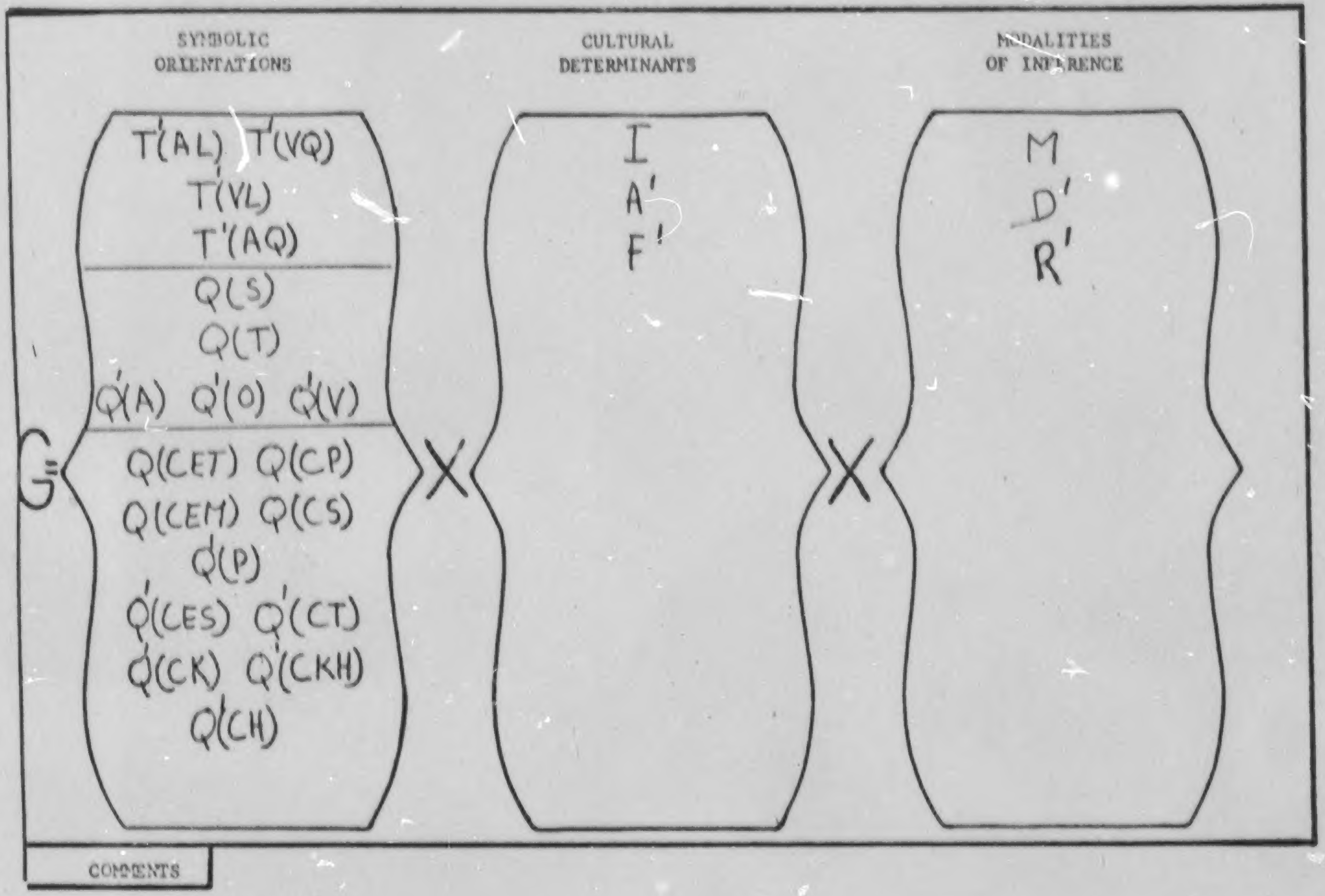
Board of Education
Adult Basic Education
Niagara Falls, New York

COGNITIVE STYLE MAP

COGNITIVE STYLE MAPPING

STUDENT'S NAME Schenectady Collective Map – Language Master

TEACHER'S NAME 30 Students (70% 21)   LED - R_____ V_____ M_____



SYMBOLIC ORIENTATIONS

T′(AL) T′(VQ)
T′(VL)
T′(AQ)

Q(S)
Q(T)
Q′(A) Q′(O) Q′(V)

Q(CET) Q(CP)
Q(CEM) Q(CS)
Q′(P)
Q′(CES) Q′(CT)
Q′(CK) Q′(CKH)
Q′(CH)

CULTURAL DETERMINANTS

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MODALITIES OF INFERENCE

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COGNITIVE STYLE MAP

Board of Education
Adult Basic Education
Niagara Falls, New York

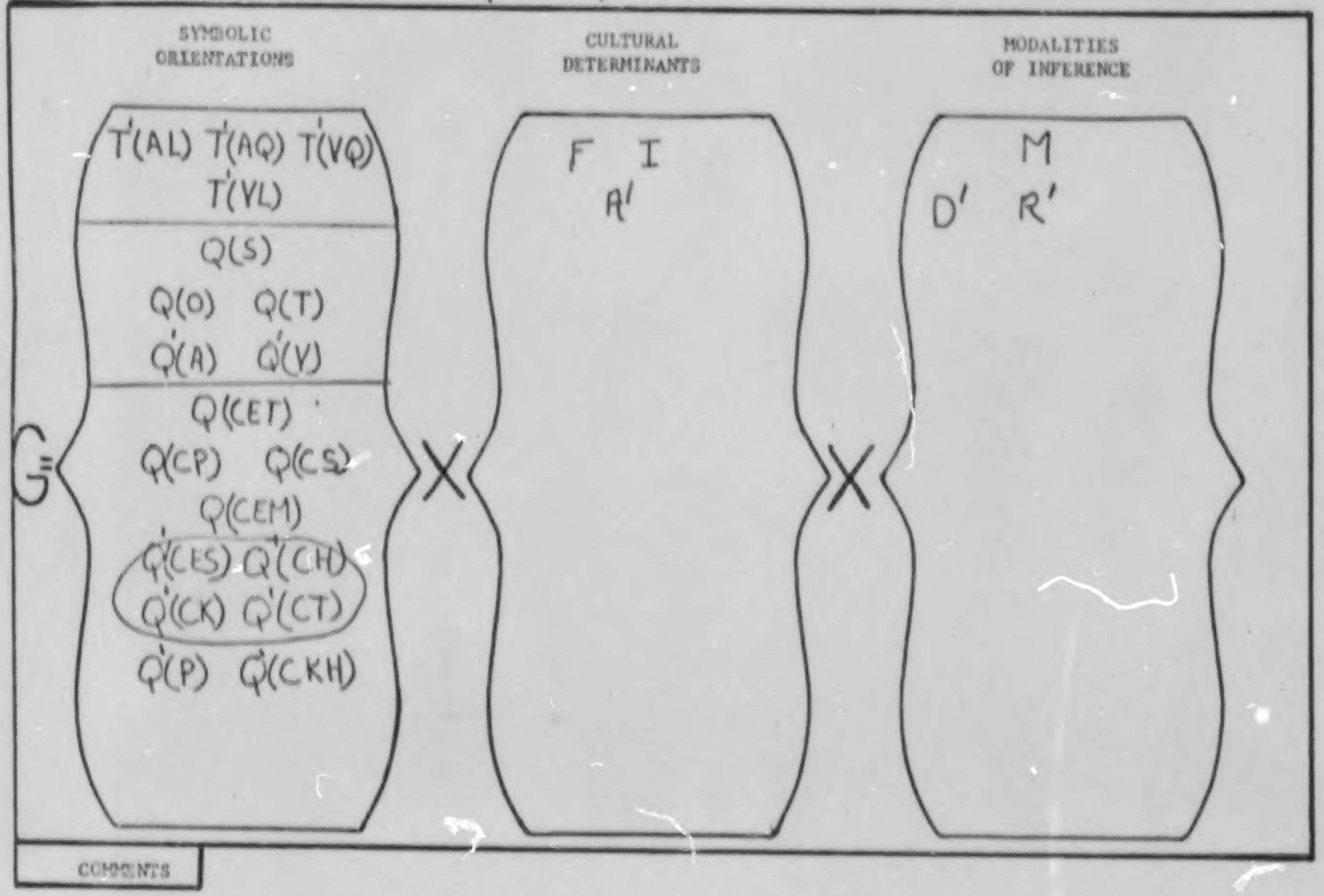
COGNITIVE STYLE MAPPING

STUDENT'S NAME Buffalo Collective Map

TEACHER'S NAME 21 Students - (70% = 14)

[illegible] Language Master

LED - R______ V______ M______



SYMBOLIC ORIENTATIONS
T'(AL) T'(AQ) T'(VQ)
T'(VL)
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Q'(A) Q'(V)
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MODALITIES OF INFERENCE
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D' R'
COMMENTS

Board of Education
Adult Basic Education
Niagara Falls, New York

COGNITIVE STYLE MAP

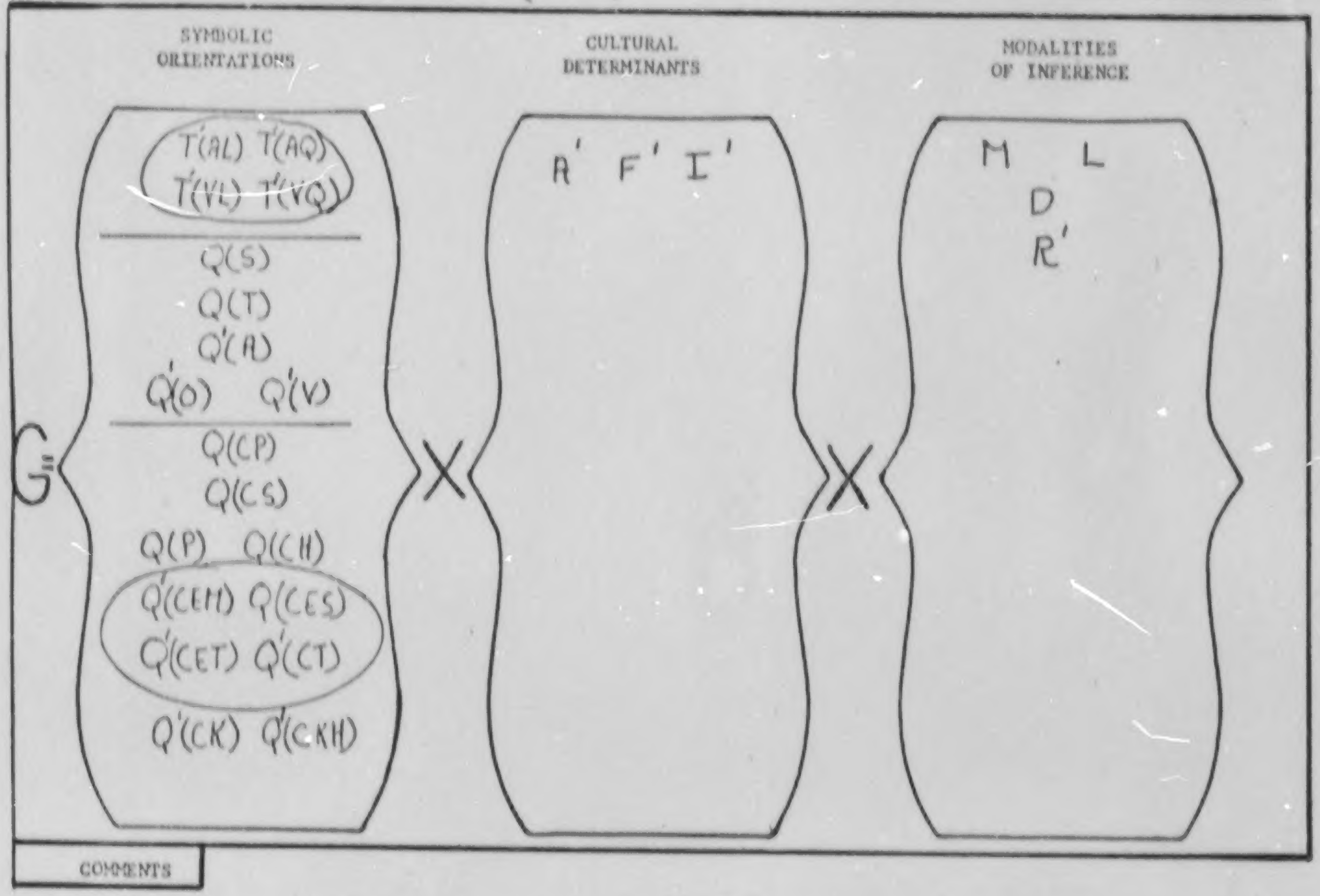
COGNITIVE STYLE MAPPING

STUDENT'S NAME Albany

TEACHER'S NAME 18 Students (70% = 12)

DATE

LED - R V M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T'(VL) T'(VQ)
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Q(P) Q(CH)
Q'(CEM) Q(CES)
Q'(CET) Q'(CT)
Q'(CK) Q'(CKH)
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COMMENTS

COGNITIVE STYLE MAP

Board of Education
Adult Basic Education
Niagara Falls, New York

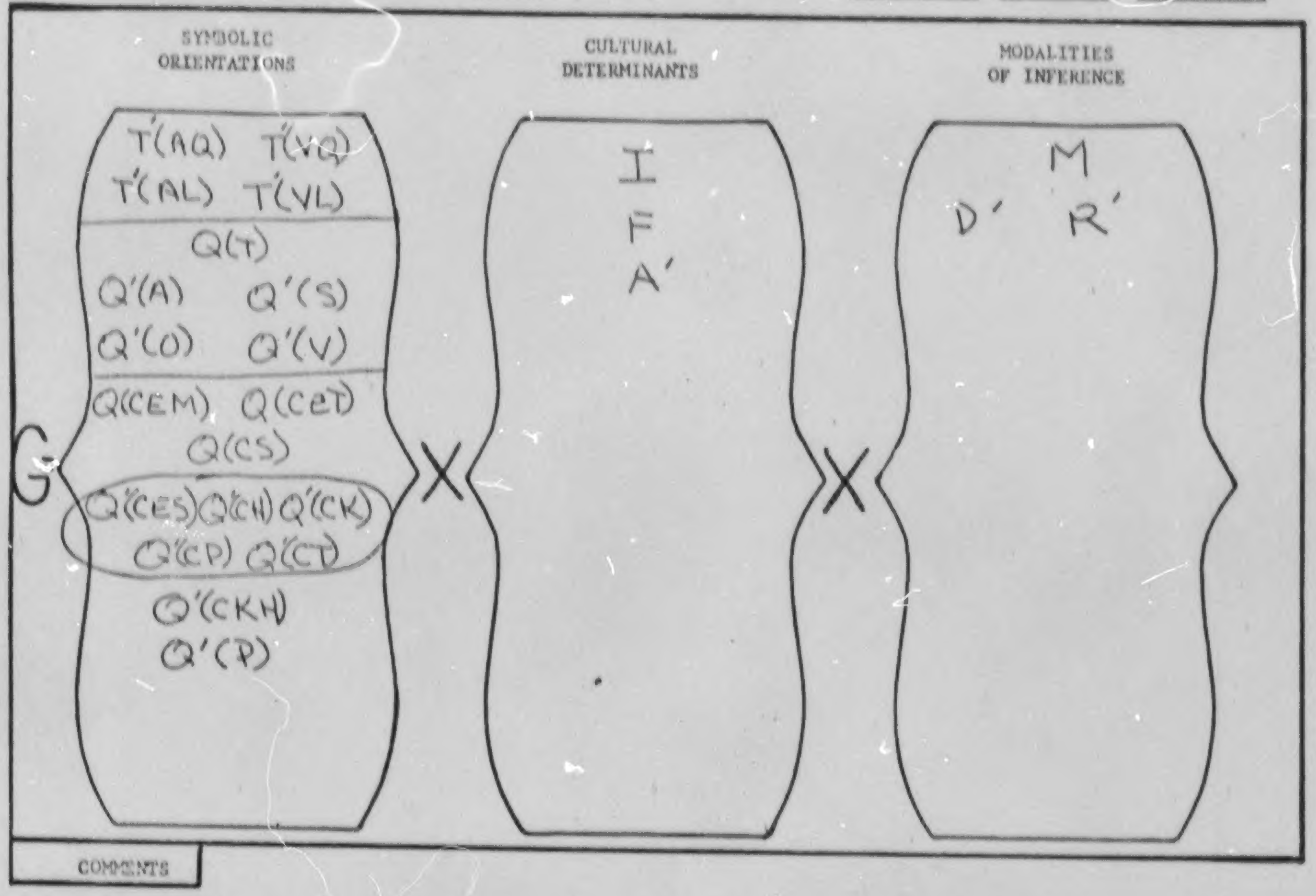
COGNITIVE STYLE MAPPING

[redacted] White Plains

[redacted] 25 Students (17 = 70%)

DATE ______

LED - R ______ V ______ M ______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COMMENTS

Board of Education
Adult Basic Education
Niagara Falls, New York

COGNITIVE STYLE MAP

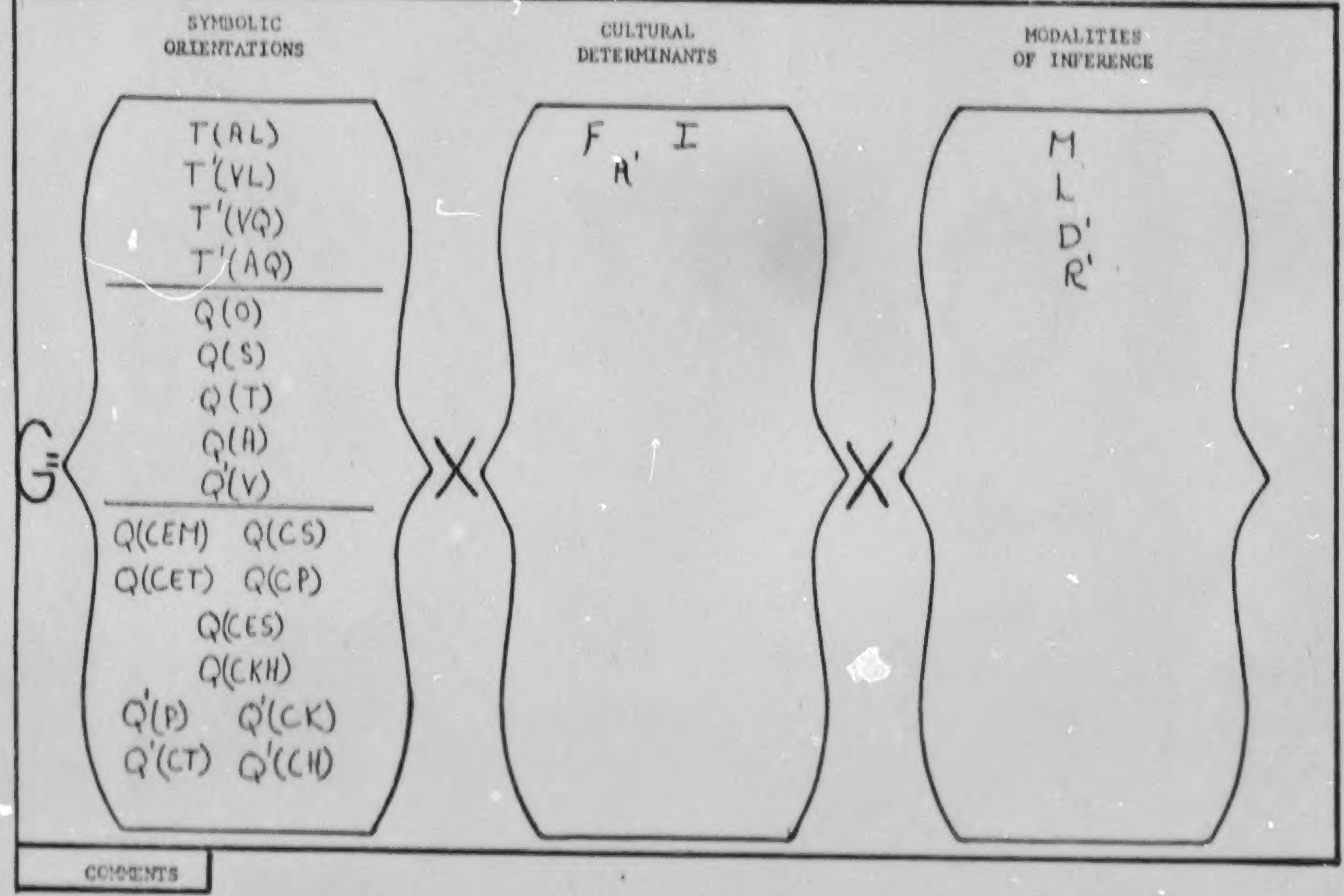
COGNITIVE STYLE MAPPING

STUDENT'S NAME Attica Correctional Inst.

DATE

TEACHER'S NAME 31 Students (70% = 22)

LED - R ____ V ____ M ____



SYMBOLIC ORIENTATIONS

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T'(VL)
T'(VQ)
T'(AQ)

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Q'(V)

Q(CEM) Q(CS)
Q(CET) Q(CP)
Q(CES)
Q(CKH)
Q'(P) Q'(CK)
Q'(CT) Q'(CH)

CULTURAL DETERMINANTS

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COGNITIVE STYLE MAP

Board of Education
Adult Basic Education
Niagara Falls, New York

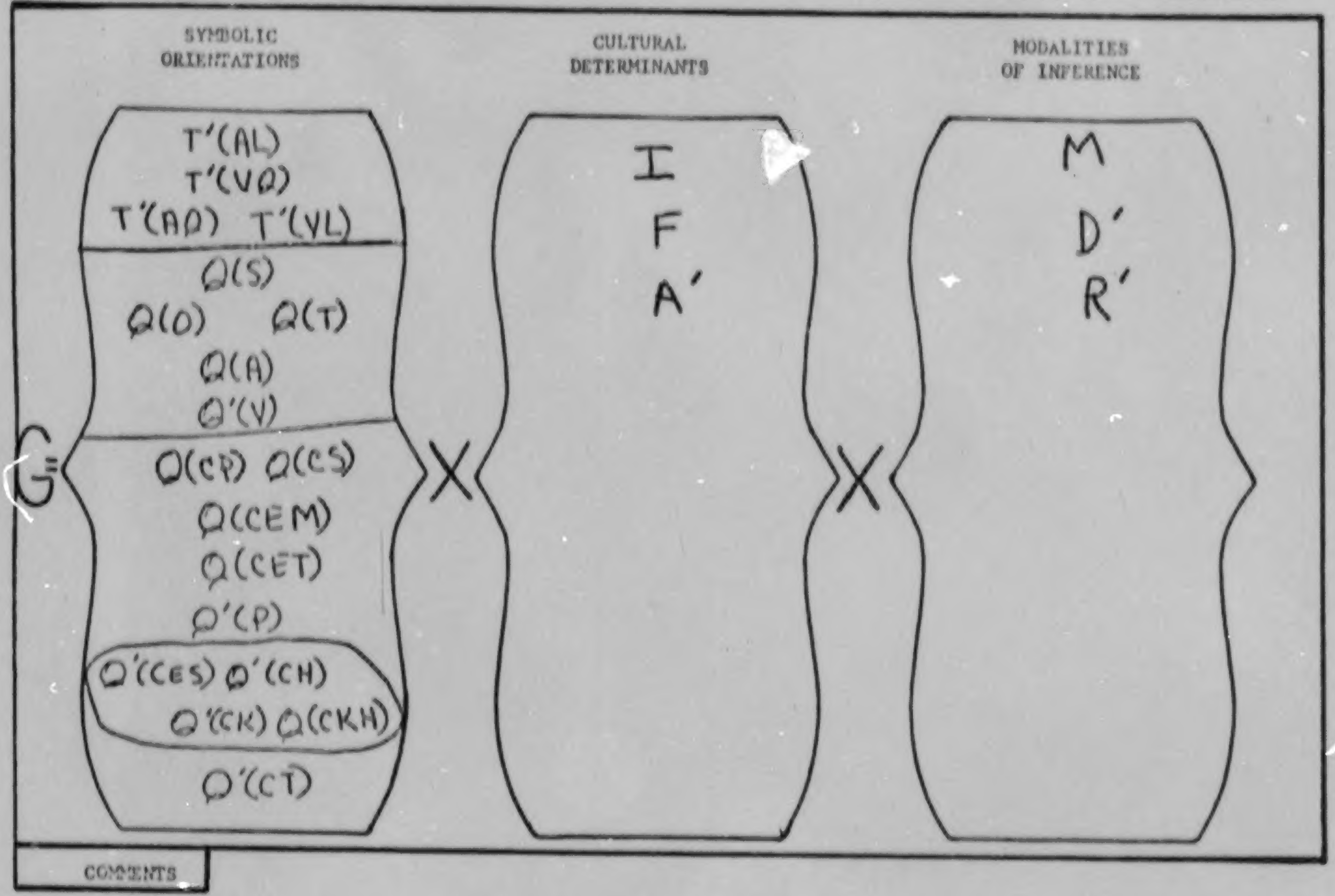
COGNITIVE STYLE MAPPING

Whitney Ave. (Males)

TEACHER'S NAME

DATE 1/22/75

LED - R____ V____ M____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T'(VQ)
T'(AQ) T'(VL)
Q(S)
Q(O) Q(T)
Q(A)
Q'(V)
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MODALITIES OF INFERENCE
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COMMENTS

Board of Education
Adult Basic Education
Niagara Falls, New York

COGNITIVE STYLE MAP

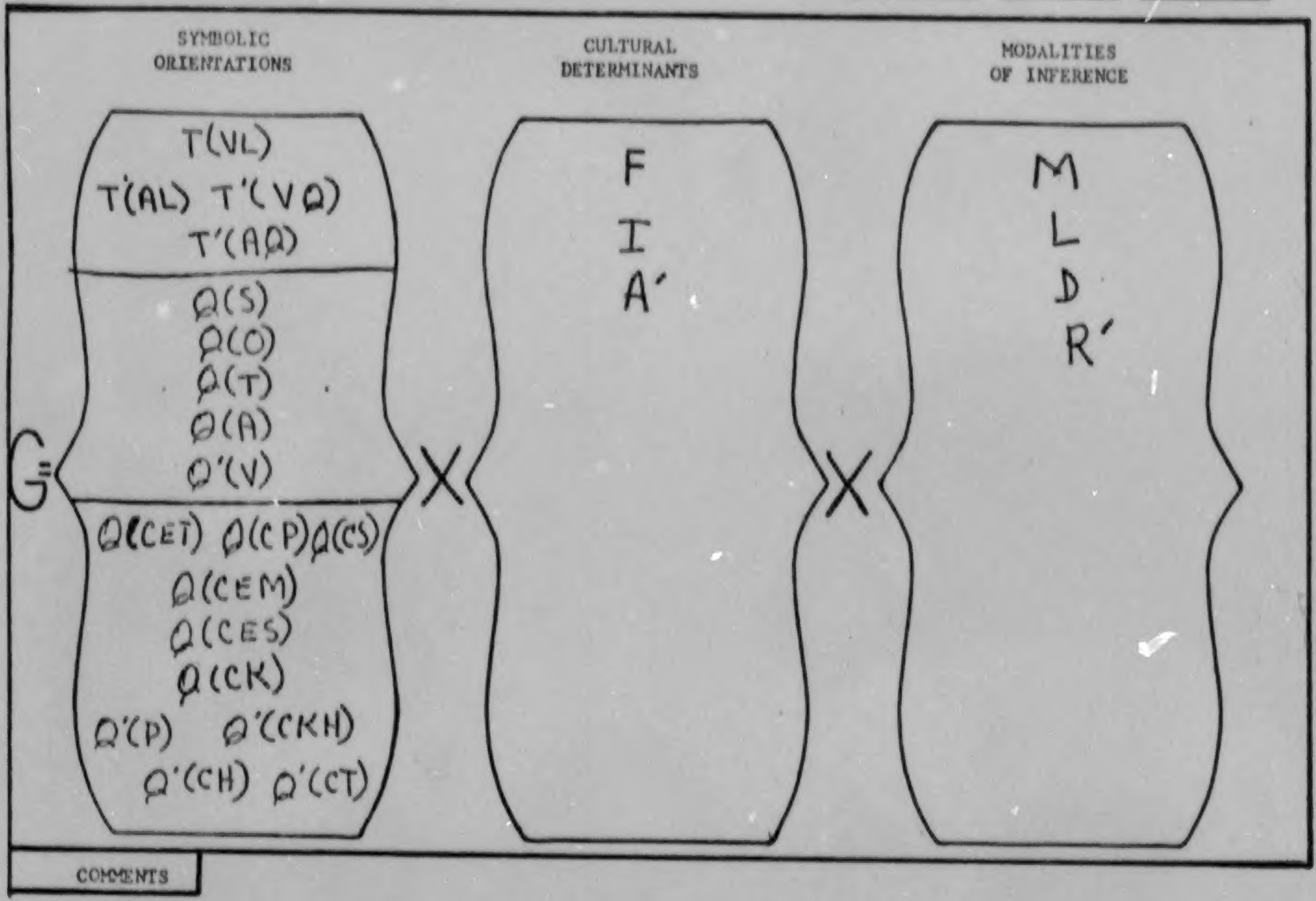
COGNITIVE STYLE MAPPING

Whitney Ave. [redacted] (Females)

DATE 1/22/75

TEACHER'S NAME ______

LED - R______ V______ M______



G =

SYMBOLIC ORIENTATIONS

T(VL)
T'(AL) T'(VQ)
T'(AQ)

Q(S)
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Q(T)
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Q(CET) Q(CP) Q(CS)
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Q'(CH) Q'(CT)

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CULTURAL DETERMINANTS

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MODALITIES OF INFERENCE

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COMMENTS

Board of Education
Adult Basic Education
Niagara Falls, New York

COGNITIVE STYLE MAP

COGNITIVE STYLE MAPPING

Whitney - L.M.
STUDENT'S NAME Students 16-24 DATE

TEACHER'S NAME LED - R V M

SYMBOLIC ORIENTATIONS

T'(AL)
T'(VQ)
T'(AQ)
T'(VL)

Q(S)
Q(O)
Q(T)
Q(A)
Q'(V)

Q(CS)
Q(CEM) Q(CET) Q(CP)
Q'(P) Q'(CES)
Q'(CK) Q'(CKH)
Q'(CH) Q'(CT)

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CULTURAL DETERMINANTS

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MODALITIES OF INFERENCE

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COMMENTS

Board of Education
Adult Basic Education
Niagara Falls, New York

COGNITIVE STYLE MAP

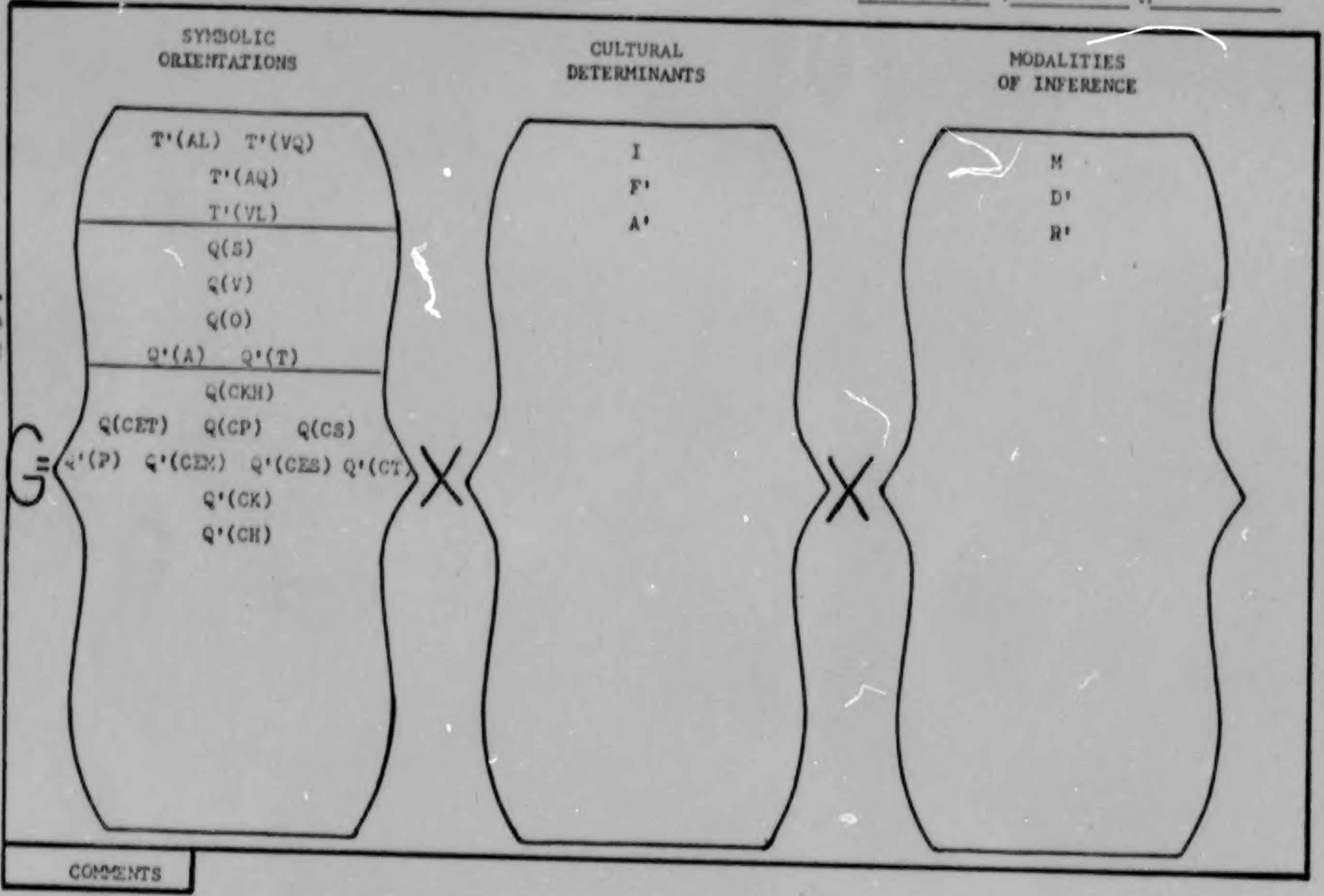
COGNITIVE STYLE MAPPING

STUDENT'S NAME PRIORITY STUDENTS

TEACHER'S NAME 35 Students (70% = 24)

DATE September 1974 - April 1975

LED - R 0.0 - 4.9 V______ M______



SYMBOLIC ORIENTATIONS
T'(AL) T'(VQ)
T'(AQ)
T'(VL)
Q(S)
Q(V)
Q(O)
Q'(A) Q'(T)
Q(CKH)
Q(CET) Q(CP) Q(CS)
G =
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COMMENTS

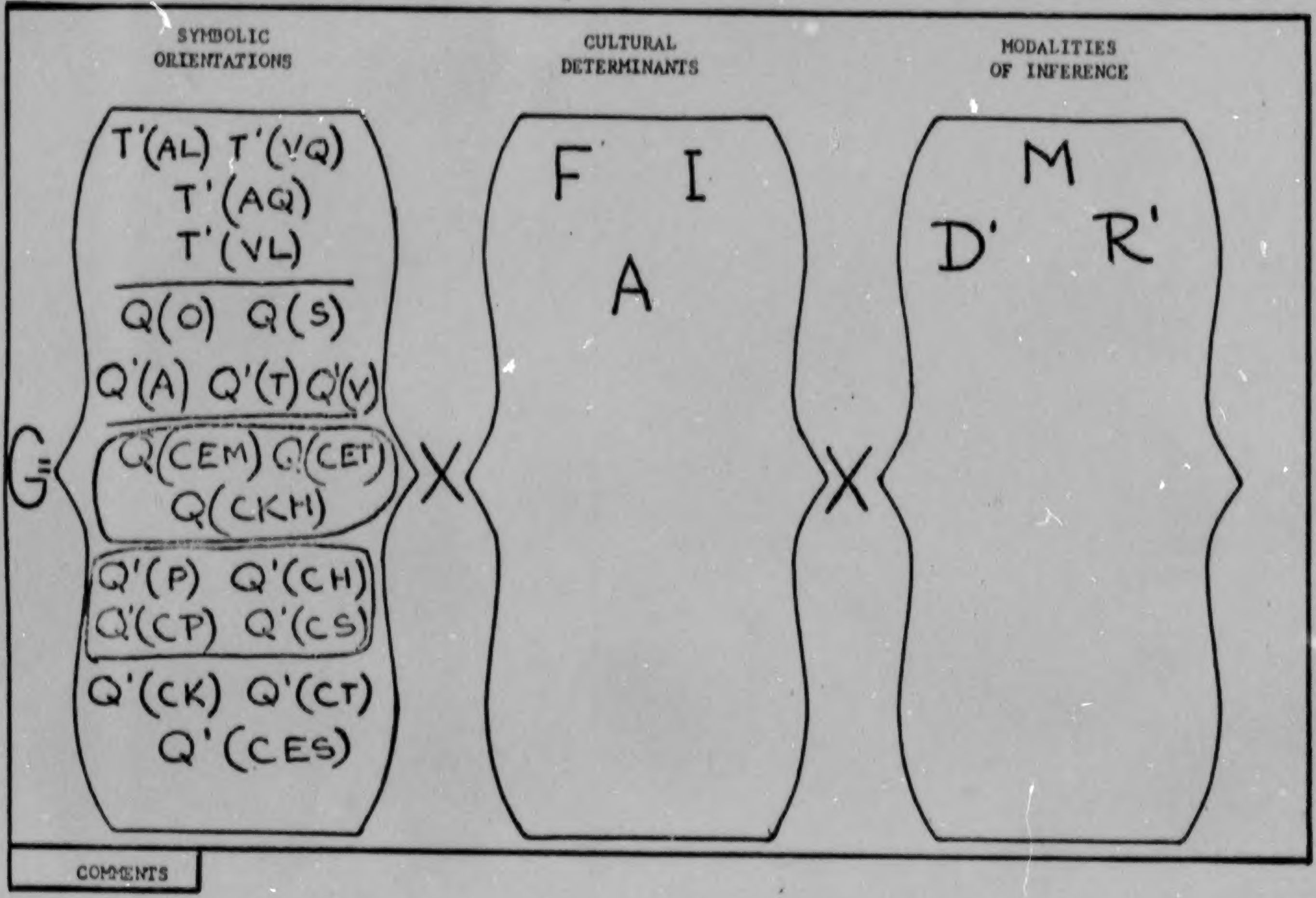
Board of Education
Adult Basic Education
Niagara Falls, New York

COGNITIVE STYLE MAP

COGNITIVE STYLE MAPPING

STUDENT'S NAME COLLECTIVE MAP. DATE SEPT. THRU DEC. 74

TEACHER'S NAME J. HESSNEY (LED - R____ V____ M____


SYMBOLIC ORIENTATIONS
CULTURAL DETERMINANTS
MODALITIES OF INFERENCE
G =
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T'(AQ)
T'(VL)
Q(O) Q(S)
Q'(A) Q'(T) Q'(V)
Q(CEM) Q(CET)
Q(CKH)
Q'(P) Q'(CH)
Q'(CP) Q'(CS)
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Q'(CES)
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COMMENTS

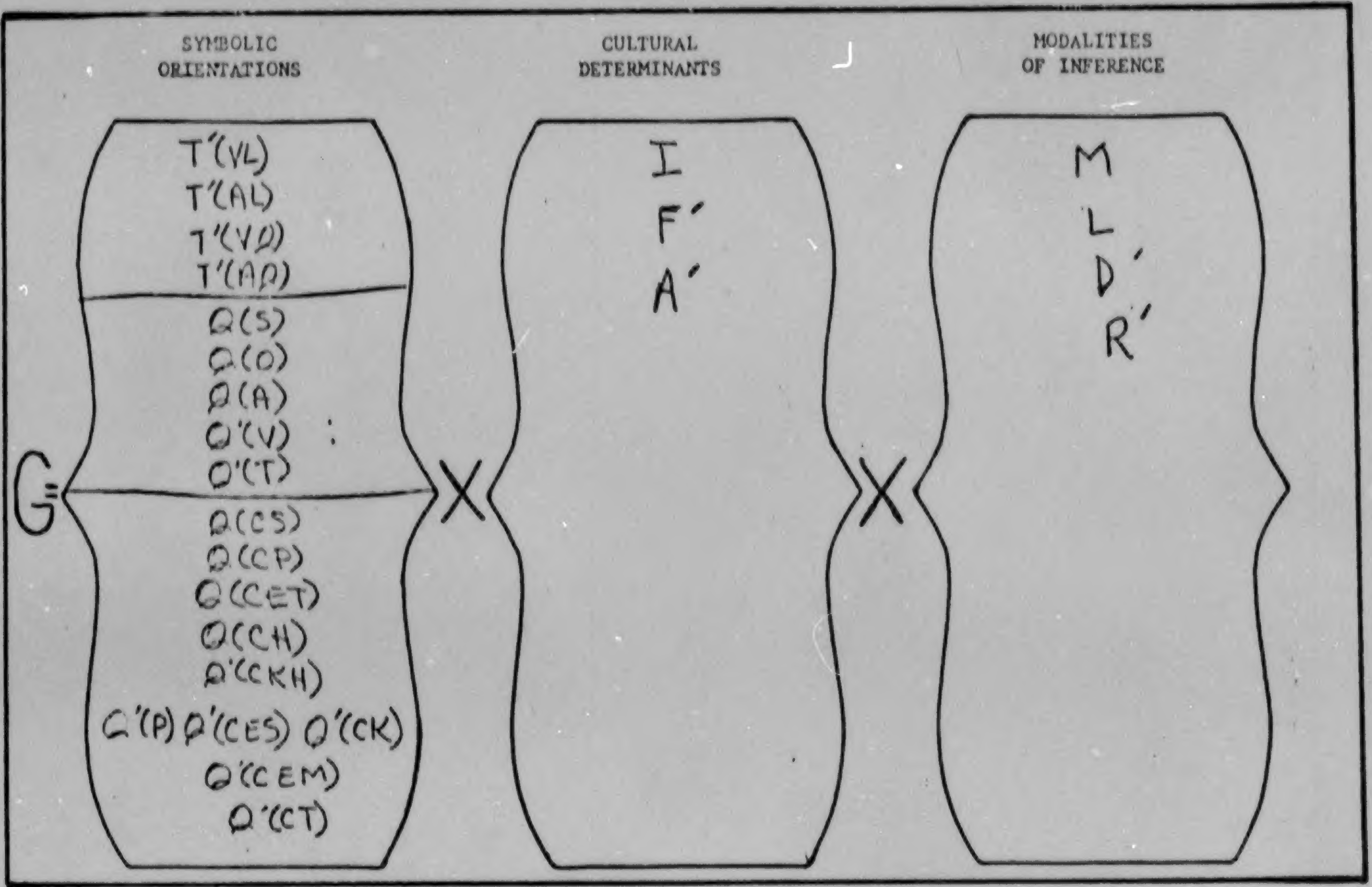
Board of Education
Adult Basic Education
Niagara Falls, New York

COGNITIVE STYLE MAP

COGNITIVE STYLE MAPPING

Whitney-CardFile Students (16-24) DATE 1-29-75

TEACHER'S NAME ______ LED - R ______ V ______ M ______



SYMBOLIC ORIENTATIONS

T'(VL)
T'(AL)
T'(VQ)
T'(AQ)

Q(S)
Q(O)
Q(A)
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CULTURAL DETERMINANTS

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MODALITIES OF INFERENCE

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COMMENTS

APPENDIX V

Measures of Central Tendency

MEASURES OF CENTRAL TENDENCY

LOCATION: Whitney Avenue Adult Center (Language Master)

SUBJECT: Educational Background (last grade completed)

POPULATION SAMPLE: 109

Mean: grade 9.5
Median: grade 10.4
Mode: grade 10
Range: grade 0 - 12

Frequency Distribution:

Grade
0 - 1
5 - 2
7 - 6
8 - 13
9 - 25
10 - 33
11 - 24
12 - 5

MEASURES OF CENTRAL TENDENCY

LOCATION: Whitney Avenue Adult Center (Language Master)

SUBJECT: Age

POPULATION SAMPLE: 109

Mean:	23.8
Median:	20.5
Mode:	20.5
Range:	15.5 - 75.5

Frequency Distribution:

Class	M	F	FM	CF
15.5 - 25.5	20.5	91	1865.50	91
25.5 - 35.5	30.5	10	305.00	101
35.5 - 45.5	40.5	2	81.00	103
45.5 - 55.5	50.5	4	202.00	107
55.5 - 65.5	60.5	0	-	107
65.5 - 75.5	70.5	2	141.00	109
			Σfm 2594.50	

MEASURES OF CENTRAL TENDENCY

LOCATION: Whitney Avenue Adult Center (Language Master)

SUBJECT: CAT Reading Scores

POPULATION SAMPLE: 109

Mean: 4.42

Median: 4.45

Mode: 6.45

Range: 0.0 - 6.95

Frequency Distribution:

Class	m	f	fm	CF
0.0 - 0.95	.48	6	2.88	6
0.95 - 1.95	1.45	6	8.70	12
1.95 - 2.95	2.45	11	26.95	23
2.95 - 3.95	3.45	15	51.75	38
3.95 - 4.95	4.45	22	97.90	60
4.95 - 5.95	5.45	22	119.90	82
5.95 - 6.95	6.45	27	174.15	109
			Σfm 482.23	

MEASURES OF CENTRAL TENDENCY

LOCATION: Whitney Avenue Adult Center (Card File)

SUBJECT: CAT Scores

POPULATION SAMPLE: 156

Mean: 9.0
Median: 8.4
Mode: 8.45 & 9.45
Range: 6.9 - 12.9

Frequency Distribution:

Class	m	f	fm	CF
6.95 - 7.95	7.45	39	290.55	39
7.95 - 8.95	8.45	42	354.90	81
8.95 - 9.95	9.45	42	396.90	123
9.95 - 10.95	10.45	17	177.65	140
10.95 - 11.95	11.45	9	103.05	149
11.95 - 12.95	12.45	7	87.15	156
			Σfm 1410.20	

MEASURES OF CENTRAL TENDENCY

LOCATION: Whitney Avenue Adult Center (Card File)

SUBJECT: Age

POPULATION SAMPLE: 156

Mean: 25.9 years old

Median: 20.5 years old

Mode: 20.5 years old

Range: 15.5 - 75.5 years old

Frequency Distribution:

Class	m	f	fm	CF
15.5 - 25.5	20.5	113	2316.50	113
25.5 - 35.5	30.5	19	579.50	132
35.5 - 45.5	40.5	13	526.50	145
45.5 - 55.5	50.5	6	303.00	151
55.5 - 65.5	60.5	3	181.50	154
65.5 - 75.5	70.5	2	141.00	156
			Σfm 4048.00	

MEASURES OF CENTRAL TENDENCY

LOCATION: Whitney Avenue Adult Center (Card File)

SUBJECT: Educational Background (last grade completed)

POPULATION SAMPLE: 145

Mean: grade 9.6
Median: grade 10
Mode: grade 10
Range: grade 7 - 12

Frequency Distribution:

7 - 6
8 - 20
9 - 35
10 - 48
11 - 33
12 - 2

APPENDIX VI

Item Analysis

WHITNEY

9

Card File

Q(V)

Cognitive Symbol

	Most of the Time	Some of the Time	Hardly Ever
A	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 ||	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸	𝍸 |
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D	𝍸 𝍸 𝍸 𝍸 |||	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 ||||	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 |
E	𝍸 𝍸 𝍸 𝍸 𝍸 |	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 |||	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 ||||
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APPENDIX VII

Adult Basic Education Workshops in Cognitive Style Mapping

STAFF TRAINING AND IMPLEMENTATION

An integral part of the project design was the development of a training model to ensure that the concept of cognitive style mapping could be replicated in other A.B.E. centers. Training of the entire Niagara Falls staff was also a requisite.

A.B.E. INSTRUCTIONAL STAFF

At the outset of the project a meeting of all daytime instructional staff was conducted by the project staff to inform teachers of the content and scope of the project and their involvement in it. Later on during the year, a selected group of A.B.E. teachers was given a five-day training session by project staff in all aspects of cognitive style mapping for the purposes of enabling them to give individual student map interpretations.

The A.B.E. teachers also became involved in the development of the taxonomy. Assessment of materials and programs for the adult student was carried out throughout several months of the project.

On March 2-5, 1975, the Niagara Falls A.B.E. center in cooperation with the New York State Education Department sponsored a 3½-day beginning level cognitive style mapping workshop in Niagara Falls. The Oakland Community College staff in coordination with the project staff conducted the workshop for all members of the Niagara Falls A.B.E. teaching staff, representatives from HEW Staff Development Regions, New York State Education Department personnel, various university representatives, and other selected guests.

FOLLOW-UP TRAINING FOR A.B.E. CENTERS CONDUCTING PILOT PROJECTS

In order for each of the four participating centers (Albany, Buffalo, Schenectady, and White Plains) to implement a pilot project in their respective centers, further training was required. To this end, each center attended a 3½-day follow-up workshop held in the Niagara Falls A.B.E. center. Project staff conducted the workshop. The following behavioral objectives were stated and met:

a) At the end of Day 1 or prior to such time the participant will be able to identify the twenty-six cognitive style mapping elements in both abbreviated and expanded forms on forms provided.

b) At the end of Day 1 or prior to such time the participant will be able to define in writing the twenty-six cognitive style mapping elements.

c) At the end of Day 1 or prior to such time the participant will be able to define the following terms on a written evaluation: cognitive style mapping, theoretical symbol, qualitative symbol, symbolic orientations, cultural determinants, and modalities of inference.

d) At the end of Day 1 each participant will be able to complete the following forms: registration sheet, tally sheet, map analysis sheet, cognitive style map, item analysis sheet in accordance with the directions stated by the project staff.

e) At the end of Day 1 each participant will be able to correctly fill in the cognitive style mapping procedure "flow chart" employed at the Whitney Avenue Learning Center.

f) At the end of Day 2 each participant will be able to interpret a student's map to the student with at least a 60% positive evaluation by a project staff member in accordance with a checklist provided.

g) At the end of Day 3 each participant will be able to write five modes of understanding on pre-selected items with 90% accuracy in accordance with criteria established by the project staff to determine their understanding of the concept of modes of understanding.

h) At the end of Day 3 each participant will be able to complete one prescription sheet with at least 70% accuracy match to a given master prescription sheet.

Following the completion of each center's pilot involvement, all four centers returned together for a two-day workshop to discourse their experience with cognitive style mapping. Mr. James Orr of Oakland Community College was also in attendance as a consultant.

STYLE

ADULT BASIC EDUCATION WORKSHOP
IN
COGNITIVE STYLE MAPPING

Treadway Inn, Niagara Falls, N. Y.
March 2-5, 1975

sponsored by

Niagara Falls Board of Education
Division of Adult Education
Niagara Falls, New York
Mr. Gerardo Franciosa
Adult and Basic Education Project Administrator

New York State Department of Education
Bureau of Basic Continuing Education
Albany, New York
Dr. Mary Reiss
Director of the Division of Continuing Education

WORKSHOP PERSONNEL

Oakland Community College

Dr. Joseph Hill, *President*
Dr. Derek Nunney, *Vice President*
James Orr, *Professor*
Linda Henderson, *Consultant*
Barbara Bowman, *Consultant*

◆ ◆ ◆

Sunday — March 2

3:00 - 4:00 PM	Register at Treadway
4:00 - 5:00 PM	**Large Group:** Workshop Registration, Mini-Survey Administered, Materials Distributed
5:00 - 6:00 PM	**Large Group:** Conference Objectives *Mr. Franciosa*
6:00 - 7:30 PM	Dinner
7:30 - 9:30 PM	**Large Group:** Overview of Education Sciences *Dr. Hill*

Monday — March 3

7:00 - 8:45 AM	Breakfast
9:00 - 10:15 AM	**Large Group:** Personalized Education Program, Utilizing Cognitive Style Mapping, *Dr. Nunney*
10:15 - 10:30 AM	Coffee Break
10:30 - 12:00 PM	**Small Groups:** Focus on Cognitive Style
12:00 - 1:00 PM	Lunch
1:00 - 2:30 PM	**Large Group:** Focus on the Educational Sciences, *Dr. Hill*
2:30 - 3:00 PM	Coffee
3:00 - 4:00 PM	**Small Groups:** Socio-Drama
6:00 PM	Dinner

Tuesday — March 4

7:00 - 8:45 AM	Breakfast
9:00 - 10:30 AM	**Large Group:** Empirical Mapping, *Dr. Nunney*
10:30 - 11:00 AM	Coffee
11:00 - 12:00 PM	**Small Groups:** Dyad Mapping
12:00 - 1:00 PM	Lunch
1:00 - 2:30 PM	**Small Groups:** John Doe Map Interpretation
3:00 - 5:00 PM	**Large Group:** Visit Whitney Avenue Adult Basic Education Center, Niagara Falls ABE Project
6:15 PM	Dinner

Wednesday — March 5

7:00 - 8:45 AM	Breakfast
9:00 - 10:30 AM	**Large Group:** Modes of Understanding & Mapping, Materials Diagnosis, Prescriptions & Augmentation, *Dr. Nunney and Mr. Orr*
10:30 - 11:00 AM	Coffee
11:00 - 12:00 PM	**Small Groups:** Collective Cognitive Styles, Diagnosis, Prescriptions & Augmentation (cont'd)
12:00 - 1:00 PM	Lunch
1:00 - 3:00 PM	**Large Group:** Implementation Strategies
3:00 - 4:00 PM	**Large Group:** Wrap-Up

ABE WORKSHOP
IN COGNITIVE STYLE MAPPING
March 2-5, 1975
Niagara Falls, N. Y.

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ABE WORKSHOP
IN COGNITIVE STYLE MAPPING
March 2-5, 1975
Niagara Falls, N. Y.

QUESTIONAIRE

1. Did the CSM workshop meet your expectations? How?

2. How was the information gained of practical value to your program?

3. Which portion of the workshop was most meaningful to you?

4. Were there any areas of the workshop where you felt modification or change would be appropriate? Please explain.

5. Did you feel that at the end of the workshop you had a working knowledge of the concepts and terminology of cognitive style mapping?

6. Do you feel that there is potential for using cognitive style mapping as another tool to gain additional information about your students?

7. Did you find the small group - large group format suitable to your needs?

8. It would be helpful, if you could add any other comments pertinent to the workshop that would assist us in evaluating its effectiveness.

Board of Education
Office of Adult Education
Niagara Falls, New York 14302

March 18, 1975

Dear Participant,

Let me take this opportunity to thank you for your participation in the recent ABE Workshop in Cognitive Style Mapping.

Enclosed you will find a roster of workshop participants and a brief questionnaire concerning various aspects of the conference. It would be greatly appreciated if you could take the time to give us some "feedback" so that we may assess the effectiveness of the workshop in relation to our goals.

Our research thus far indicates that Cognitive Style Mapping has important implications for use in adult basic education nationwide. We hope that your interest has been piqued as a result of this workshop and that you have gained an awareness of what is being developed for ABE in Cognitive Style Mapping under the 309(B) grant.

As part of our dissemination efforts a booklet was printed to give an overview of our project. This booklet was included with the packet of materials you received. Additional copies are available on a limited basis.

Sincerely,

Gerardo Franciosa

Gerardo Franciosa
Adult and Basic Education
Project Administrator

GF:lj

Enclosures

Board of Education
Office of Adult Education
Niagara Falls, New York 14302

Workshop II - Cognitive Style Mapping
for
Albany, Buffalo, Schenectady, White Plains

BEHAVIORAL OBJECTIVES

1. At the end of DAY 1 or prior to such time, the participant will be able to identify the 26 cognitive style mapping elements in both abbreviated and expanded forms with at least 90% accuracy on a written evaluation.

2. At the end of DAY 1 or prior to such time, the participant will be able to define the 26 cognitive style mapping elements with at least 90% accuracy on a written evaluation.

3. At the end of DAY 1 or prior to such time, the participant will be able to define the following terms with at least 90% accuracy on a written evaluation: cognitive style mapping, theoretical symbol, qualitative symbol, symbolic orientations, cultural determinants, and modalities of inference.

4. At the end of DAY 1, each participant will be able to use the following forms with at least 90% accuracy: registration sheet, tally sheet, map analysis sheet, cognitive style map, item analysis sheet.

5. At the end of DAY 1, each participant will be able to correctly fill in the cognitive style mapping procedure "flow chart" employed at the Whitney Avenue Learning Center with at least 90% accuracy.

6. At the end of DAY 2, each participant will be able to interpret a student's map to the student with at least a 60% positive evaluation by a project staff member.

7. At the end of DAY 3, each participant will be able to write 5 modes of understanding on pre-selected items with 90% accuracy to determine their understanding of the concept of modes of understanding.

8. At the end of DAY 3, each participant will be able to complete one prescription sheet with at least 70% accuracy match to a given master prescription sheet.

Board of Education
Office of Adult Education
Niagara Falls, New York 14302

Workshop II - Cognitive Style Mapping

PROJECT EXPECTATIONS AND GUIDELINES FOR PARTICIPATING CENTERS

Below are listed the expectations and guidelines for all participating centers. Some areas may be sensitive in that student reactions are requested. However, we are confident that every center has built in strategies to cope with all situations. It is requested that the guidelines be followed as closely as possible.

1. The target population and priorities in the project are 0-4 reading level, English speaking, minority, welfare recipients, unemployed, underemployed, undereducated, male. Students in the project should fit the priorities as much as possible.

2. Niagara Falls material on Cognitive Mapping is to be kept secure and not distributed to other than participating personnel. Interpretations and prescription writing should be limited to those people who have received training at follow-up workshops with the Niagara Falls staff.

3. Each Center is asked to establish an experimental group and a control group. In the event that two separate classes are not feasible, twenty students would be appropriate (10 experimental and 10 control).

4. The experimental group is to be mapped.

5. The control group is not to be mapped.

6. The experimental group is to be given the alternatives based on the mapping results.

7. The control group is to be given the usual ABE instruction.

8. Demographic information collected is to be recorded on forms provided.

9. Prescriptions are to be written on forms provided utilizing the modes of understanding provided by the Niagara Falls staff.

10. Solicit student reaction to the survey and record the results on forms provided.

11. Solicit student reaction to the interpretations and record the results on forms provided.

12. Record the length of the individual interpretations.

13. Record and describe any problems encountered regarding CSM and time schedules.

14. Record any administrative problems, staff problems, staff development problems, etc. that are identified for this project.

15. Any additional financial needs encountered during project should be recorded.

16. Each Center should determine the most feasible time slot for mapping, respective to its individual needs, i.e. during intake, after one week, on a need basis, other.

17. Each Center should assess which staff members (counselor, lab, etc.) are best suited to work in this area. Should additional personnel be hired ?

18. Any problems with implementation of prescription alternatives should be recorded. Are existing materials in program adequate?

19. Any observable changes in attitude among students in the experimental group regarding ABE should be recorded.

20. Any significant data regarding retention rate and attrition rate in the experimental group vs. control group should be recorded.

Board of Education
Adult Basic Education
Niagara Falls, New York

COGNITIVE STYLE MAPPING

Evaluation Form

1. To what extent were you able to accomodate the request for students that fit the given project priorities, ie. male, minority, young, 0-4 reading level! Out of these four priorities, which was the most difficult to accomodate? Please explain. Do all of your students in the experimental group fit at least one of the four priorities?

2. Elaborate on how you selected the 10 students for the experimental group, ie. did they come from one class, the lab, anywhere in the school etc!

3. Describe any difficulties in providing the experimental group with the instructional materials and techniques their map suggested. How did you provide these alternatives, ie. lab only, classroom only, combination of lab and classroom, etc?

4. How did you select the ten students for the control group?

5. Describe in detail your reactions to the prescription process using the given modes of understanding? Please offer suggestions for expansion or deletion of some of the items on the prescription sheet.

6. Offer any comments on student reactions to taking the survey. Also include any reactions to the interpretations.

7. In general, how long did each interpretation take? Approximately how much time elapsed between the student's mapping and his interpretation?

8. Describe any administrative problems or staff problems, that you encountered in the project?

9. Describe any problems encountered regarding CSM and time schedules.

10. What financial needs, if any, were encountered during the project?

11. What, if any, observable changes in attitude among the students in the experimental group were noted?

12. Which staff members (counselor, lab personnel, etc.) were best suited to work in this area?

13. What data, if any, regarding retention rate and attrition rate in the experimental group vs. the control group is available?

14. Based on this limited experience, what do you feel would be the most feasible time slot for mapping, ie. during intake, after one week, on a need basis, etc?

15. Describe any problems encountered regarding the scheduling of the mapping and interpretation sessions.

16. Offer any thoughts you may have on additional training in CSM. Do you feel this is necessary and, if so, what areas should be covered?

17. Do you feel CSM is a worthwhile endeavor to undertake in respect to the time, effort, and personnel requirements needed? Explain.

18. Where do you feel it would be easiest to implement CBM, ie. lab only, classroom only, combination, etc?

19. Please note any additional ideas you wish to offer concerning the CBM project?

COGNITIVE STYLE MAPPING

PART 1

Identify and define the following cognitive style mapping elements, ex. Q(CEM) - Qualitative Code Empathetic, sensitivity to the feelings of others, ability for someone to put himself in another person's place.

T(AL) ______________________________

Q(S) ______________________________

Q(CP) ______________________________

F ______________________________

R ______________________________

D ______________________________

A ______________________________

Q(P) ______________________________

Q(CH) ______________________________

Q(CES) ______________________________

I ______________________________

T(AQ) ______________________________

Q(CK) ______________________________

T(VQ) ______________________________

Q(T) ______________________________

T(VL) ______________________________

Q(A) ______________________________

Q(O) ______________________________

Q(V) ______________________________

M____

L____

Q(CKH)____

Q(CET)____

Q(CS)____

Q(CT)____

PART 2

Match the term to its appropriate definition.

_______qualitative symbols

_______cognitive style mapping

_______cultural determinants

_______theoretical symbols

_______cognitive style

_______modalities of inference

_______symbolic orientations

A. spoken or written words or numbers which represent the meaning something in the environment has for an individual

B. the way an individual searches for meaning

C. the part of cognitive map which tells the ways an individual derives meaning from symbols related to his personal experiences and the world around him

D. a procedure to put down on paper a picture of the way an individual searches for meaning

E. symbols used by the individual to convey "feelings, commitments, values and to provide insights into one's self"

F. the part of a cognitive map which show the individual's preference for who influences his search for meaning and how he interprets meaning

G. the part of a cognitive map that show how an individual reasons and how he draws conclusions

Board of Education
Adult Basic Education
Niagara Falls, New York

COGNITIVE STYLE MAPPING

PICTURE IDENTIVICATION

(Numbers 1-4) Identify each theoretical symbol using the expanded and abbreviated terms. Use the number found on the pictures.

1. ____________________

2. ____________________

3. ____________________

4. ____________________

(Numbers 5-9) Identify each sensory symbol using the expanded and abbreviated terms. Use the number on the pictures.

5. ____________________

6. ____________________

7. ____________________

8. ____________________

9. ____________________

(Numbers 10-19) Identify each cultural and programmatic symbol using the expanded and abbreviated terms. Use the numbers on the pictures.

10. ____________________

11. ____________________

12. ____________________

13. ____________________

14. ____________________

15. ____________________

16. ____________________

17. ____________________

18. ____________________

19. ____________________

(Numbers 20-22) Identify each cultural determinant symbol using the expanded and abbreviated terms. Use the numbers found on the pictures.

20.____

21.____

22.____

(Numbers 23-26) Identify each modality of inference symbol using the expanded and abbreviated terms. Use the numbers found on the pictures.

23.____

24.____

25.____

26.____

Board of Education
Adult Basic Education
Niagara Falls, New York

COGNITIVE STYLE MAPPING

Socio Drama #1

#1 NEWSPAPER MEETING - GUIDE FOR PLAYERS:

SCENE: THE SCENE TO BE PLAYED OUT IN THIS ROLE PLAY IS A MEETING OF THE ADMINISTRATOR, ONE FACULTY MEMBER, THE EDITOR OF THE STUDENT NEWSPAPER, AND THE PRESIDENT OF THE STUDENT GOVENMENT. THE PURPOSE OF THE MEETING IS TO DEVELOP A POLICY STATEMENT ABOUT "WHAT NEWS IS TO BE INCLUDED IN THE NEWSPAPER, WHO DECIDES WHAT IS FIT TO PRINT, AND WHO IS ACCOUNTABLE FOR WHAT IS PRINTED". THE MEETING IS A 10 MINUTE MEETING.

STYLES OF ROLE PLAYERS:

1. THE EDITOR OF THE NEWSPAPER:

$$\begin{bmatrix} \text{T(VL) T(AQ)} \\ \text{Q(V)} \\ \text{Q(CH)} \\ \text{Q(CK)} \\ \text{Q(CS)} \end{bmatrix} \times \begin{bmatrix} \text{A I} \end{bmatrix} \times \begin{bmatrix} \text{L} \end{bmatrix}$$

CONCERNS:
1) CENSORSHIP

2. THE FACULTY MEMBER:

$$\begin{bmatrix} \text{T(VL) T(VQ)} \\ \text{Q(T)} \\ \text{Q(CES)} \\ \text{Q(CET)} \end{bmatrix} \times \begin{bmatrix} \text{F I} \end{bmatrix} \times \begin{bmatrix} \text{R M} \end{bmatrix}$$

CONCERNS:
1) QUALITY OF JOURNALISM

3. THE PRESIDENT OF STUDENT GOVERNMENT:

$$\begin{bmatrix} \text{T(AL)} \\ \text{Q(S)} \\ \text{Q(CEM)} \\ \text{Q(CP)} \\ \text{Q(CET)} \\ \text{Q(CT)} \end{bmatrix} \times \begin{bmatrix} \text{F A} \\ \text{I'I'} \end{bmatrix} \times \begin{bmatrix} \text{R M L} \end{bmatrix}$$

CONCERNS:
1) STUDENT NEEDS AND REACTIONS

4. THE ADMINISTRATOR (DEAN OF STUDENTS):

$$\begin{bmatrix} \text{T(VL) T(AQ)} \\ \text{Q(CET)} \\ \text{Q(CS)} \\ \text{Q(CEM)} \end{bmatrix} \times \begin{bmatrix} \text{I F} \end{bmatrix} \times \begin{bmatrix} \text{M R} \end{bmatrix}$$

CONCERNS:
1) PUBLIC REACTION

Board of Education
Adult Basic Education
Niagara Falls, New York

COGNITIVE STYLE MAPPING

Socio Drama #2

SCENE: THE SCENE TO BE PLAYED OUT IN THIS ROLE PLAY IS A BUDGETORY COMMITTEE MEETING FOR THE FACULTY-STUDENT ASSOCIATION ATTENDED BY THE DIRECTOR OF STUDENT ACTIVITIES, THE TREASURER OF STUDENT GOVERNMENT, THE TREASURER OF THE FACULTY ASSOCIATION, AND STUDENT COORDINATOR OF ATHELETIC ACTIVITIES. THE PURPOSE OF THE MEETING IS TO DECIDE THE AMOUNT OF MONEY TO BE MADE AVAILABLE TO STUDENT-DIRECTED ATHLETIC EVENTS FOR THE YEAR. THE TOTAL FSA BUDGET IS $10,000. THIS IS A 5 MINUTE MEETING.

STYLES OF ROLE PLAYERS:

1. DIRECTOR OF STUDENT ACTIVITIES:

$$\begin{bmatrix} T(VL)\ T(VQ) \\ Q(T) \\ Q(CET) \\ Q(CEM) \end{bmatrix} \text{X} \begin{bmatrix} I\ F \end{bmatrix} \text{X} \begin{bmatrix} R\ D\ L \end{bmatrix}$$

CONCERNS:
1) THE WHOLE PICTURE OF FSA BUDGET

2. TREASURER OF STUDENT GOVERNMENT:

$$\begin{bmatrix} T(AL)\ T(AQ) \\ Q(A) \\ Q(CET) \\ Q(CS) \\ Q(CH) \end{bmatrix} \text{X} \begin{bmatrix} I \end{bmatrix} \text{X} \begin{bmatrix} M\ D \end{bmatrix}$$

CONCERNS:
1) ACCOUNTING PROCEDURE FOR BUDGETORY EXPENDITURES

3. TREASURER OF FACULTY ASSOCIATION:

$$\begin{bmatrix} T(AL)\ T(VQ) \\ Q(CET) \\ Q(CT) \\ Q(CEM) \\ Q(CP) \end{bmatrix} \text{X} \begin{bmatrix} F\ I \end{bmatrix} \text{X} \begin{bmatrix} M\ R \end{bmatrix}$$

CONCERNS:
1) ATHLETIC RECREATION FOR FACULTY ASSOCIATION

4. STUDENT DIRECTOR OF ATHLETICS:

$$\begin{bmatrix} T(AL) \\ Q(T) \\ Q(P) \\ Q(CK) \\ Q(CT) \end{bmatrix} \text{X} \begin{bmatrix} A\ F \end{bmatrix} \text{X} \begin{bmatrix} L \end{bmatrix}$$

CONCERNS:
1) FAIR SHAKE FOR STUDENT RECREATION

MAPPING PROCEDURE

Tally Sheet

1. Are there eight items per line, lettered A-H?

Yes No

2. Are the line totals correct?

Yes No

3. Are the major, minor and negligible values appropriately indicated?

Yes No

4. Is the student information correctly entered at the side of sheet?

Yes No

Map Analysis Sheet

1. Are the cognitive category scores transcribed correctly?

Yes No

2. Are the scores placed in the appropriate major, minor or negligible columns?

Yes No

3. In the second and third sets, are there the appropriate number of majors?

Yes No

4. If there is a change in majors, is it appropriately marked?

Yes No

5. Is the student information correctly entered at the side of the sheet?

Yes No

Cognitive Map

1. Are the elements listed in ranking order highest to lowest in each section and are the sections defined in the first set?

Yes No

2. Are the majors and minors correctly marked and negligibles left off the map?

Yes No

3. Are the scores printed next to each element?

Yes No

4. Are items of equal value printed next to each other or circled?

Yes No

5. Is the student information correctly entered at the side of the sheet?

Yes No

Board of Education
Adult Basic Education
Niagara Falls, New York

Cognitive Mapping Procedure

1. The number of items per category line is__________.
2. Only (odd, even) scores appear on the tally sheet.
3. How are negligibles indicated on the tally sheet?
4. How are minors indicated on the tally sheet?
5. What range of scores constitute a major?
6. What range of scores constitute a minor?
7. What range of scores constitute a negligible?
8. What four items of student information are given on each of the forms: map, map analysis, tally sheet?
9. What is the maximum number of majors in the second set?
10. What is the maximum number of majors in the third set?
11. On the map analysis sheet, how are changes from majors to minors indicated?
12. In the modalities of inference, what element is only printed as a mjor?
13. In each of the cartesian sets, how are the items listed?
14. On the cognitive map, if two items appear on the same line, what does it indicate?
15. How are negligibles indicated on the cognitive map?
16. On the cognitive map, what would a circle around several elements indicate?

Board of Education
Adult Basic Education
Niagara Falls, New York

COGNITIVE STYLE MAPPING

Guidelines for Interpretation

1. Informal mood should be set.
2. Interpret as soon as possible after mapping.
3. Interpretations by a trained professional only.
4. Stay away from fortune telling and its suggestion.
5. Get the student involved - ask questions of him during interpretation to verify cognitive map.
6. It is important to key length of the interpretation to the student's interest. Explaining only parts of the map to some students may be all they want.
7. Conduct the interpretation privately.
8. Remember this is only an interpretation - each center has professionals hired to handle guidance problems and they are not a function of the interpretation.
9. Offer instructional suggestions in writing to aid others using the map.
10. Depending on the student's achievement level and apparent interest, you may want to explain how the mapping and tallying procedure occurred. Some students will request this information.
11. It is not necessary to use the actual terminology for each element - it's more important to explain what it means than what it's called.
12. Please remember that if you come across something on a map you're unsure of, call us and if we can't answer it, we have an open line to Oakland Community College anytime.

INTERPRETATION SELF-EVALUATION

On a scale of 1 to 10, rate the interpretaion you have just given according to the following criteria.

1. Interpreter's knowledge of CSM symbols and their corresponding terms.

   1 2 3 4 5 6 7 8 9 10

2. Creation of an informal, comfortable atmosphere during the interpretation allowing the student to feel at ease.

   1 2 3 4 5 6 7 8 9 10

3. Explanation of what cognitive mapping is and the purpose of the interpretation.

   1 2 3 4 5 6 7 8 9 10

4. Explanation of forms student is shown during the interpretation and how they were obtained.

   1 2 3 4 5 6 7 8 9 10

5. Explanation of theoretical symbols.

   1 2 3 4 5 6 7 8 9 10

6. Explanation of sensory codes.

   1 2 3 4 5 6 7 8 9 10

7. Explanation of cultural codes.

   1 2 3 4 5 6 7 8 9 10

8. Explanation of cultural determinants.

   1 2 3 4 5 6 7 8 9 10

9. Explanation of modalities of inference.

   1 2 3 4 5 6 7 8 9 10

10. Interrelationship of elements.

    1 2 3 4 5 6 7 8 9 10

11. Interpreter's involvement of student in interpretation.

    1 2 3 4 5 6 7 8 9 10

12. Interpreter's adjustment of interpretation length to suit student interest

1 2 3 4 5 6 7 8 9 10

13. Interpreter's use of examples to explain categories.

1 2 3 4 5 6 7 8 9 10

14. Overall evaluation.

1 2 3 4 5 6 7 8 9 10

MODES OF UNDERSTANDING

Auto Tutor

$$\begin{bmatrix} \text{T(VL)**} \\ \text{Q(V)*} \\ \text{Q(CET)*} \\ \text{Q(CKH)*} \end{bmatrix} \times \begin{bmatrix} \text{F**} \\ \text{I*} \\ \\ \\ \end{bmatrix} \times \begin{bmatrix} \text{L*} & \text{M*} \\ & \\ & \\ & \end{bmatrix}$$

Tachistoscope (Flash-X)

$$\begin{bmatrix} \text{T(VL)*} \\ \text{Q(V)*} \\ \text{Q(CET)*} \\ \text{Q(CKH)*} \end{bmatrix} \times \begin{bmatrix} \text{I*} \\ \\ \\ \\ \end{bmatrix} \times \begin{bmatrix} \text{M*} \\ \\ \\ \\ \end{bmatrix}$$

Addison Wesley Reading Development Kit B

$$\begin{bmatrix} \text{T(VL)*} \\ \text{Q'(V)} \\ \text{Q(CET)*} \\ \text{Q(CEM)*} \\ \text{Q'(CKH)} \end{bmatrix} \times \begin{bmatrix} \text{I*} \\ \text{F'} \\ \\ \\ \\ \end{bmatrix} \times \begin{bmatrix} \text{L*} & \text{M*} \\ & \\ & \\ & \\ & \end{bmatrix}$$

Barnell Loft, Ltd. - Drawing Conclusions F

$$\begin{bmatrix} \text{T(VL)*} \\ \text{Q(CKH)*} \\ \text{Q(CET)*} \end{bmatrix} \times \begin{bmatrix} \text{I*} & \text{F*} \\ & \\ & \end{bmatrix} \times \begin{bmatrix} \text{L*} \\ \\ \\ \end{bmatrix}$$

Barnell Loft, Ltd. - Using the Context F

$$\begin{bmatrix} \text{T(VL)*} \\ \text{Q(CKH)*} \\ \text{Q(CET)*} \end{bmatrix} \times \begin{bmatrix} \text{I*} & \text{F*} \\ 1 & \\ & \end{bmatrix} \times \begin{bmatrix} \text{M*} \\ \\ \\ \end{bmatrix}$$

EDL Study Kit F

$$\begin{bmatrix} \text{T(VL)*} \\ \text{Q(V)**} \\ \text{Q(CET)*} \\ \text{Q(CKH)*} \end{bmatrix} \times \begin{bmatrix} \text{I*} & \text{F*} \\ & \\ & \\ & \end{bmatrix} \times \begin{bmatrix} \text{L*} & \text{M*} \\ & \\ & \\ & \end{bmatrix}$$

EDL Study Kit FF

$$\begin{bmatrix} \text{T(VL)**} \\ \text{Q(V)*} \\ \text{Q(CET)*} \\ \text{Q(CKH)*} \\ \text{Q(CEM)*} \\ \text{Q(CES)*} \end{bmatrix} \times \begin{bmatrix} \text{I*} & \text{F*} \\ & \\ & \\ & \\ & \\ & \end{bmatrix} \times \begin{bmatrix} \text{L*} & \text{M*} \\ & \\ & \\ & \\ & \\ & \end{bmatrix}$$

EDL Study Kit FFF

$$\begin{bmatrix} \text{T(VL)*} \\ \text{Q(V)*} \\ \text{Q(CET)*} \\ \text{Q(CKH)*} \end{bmatrix} \quad \begin{bmatrix} \text{I*} \\ \text{F'} \\ \\ \\ \end{bmatrix} \quad \begin{bmatrix} \text{M*} \\ \text{R'} \\ \\ \\ \end{bmatrix}$$

EDL Controlled Reader GA

$$\begin{bmatrix} \text{T(VL)**} \\ \text{Q(V)*} \\ \text{Q(CEM)**} \\ \text{Q(CET)*} \\ \text{Q(CKH)*} \end{bmatrix} \times \begin{bmatrix} \text{I*} \\ \\ \\ \\ \\ \end{bmatrix} \times \begin{bmatrix} \text{L**} \\ \\ \\ \\ \\ \end{bmatrix}$$

ICT - CRL History F (Cassette Only)

$$\begin{bmatrix} \text{T(AL)**} \\ \text{T(VL)**} \\ \text{Q(A)*} \\ \text{Q(V)*} \\ \text{Q(CEM)*} \\ \text{Q(CET)*} \\ \text{Q(CKH)*} \end{bmatrix} \times \begin{bmatrix} \text{I*} \\ \\ \\ \\ \\ \\ \\ \end{bmatrix} \times \begin{bmatrix} \text{L*} & \text{R*} \\ & \\ & \\ & \\ & \\ & \\ & \end{bmatrix}$$

SRA - An American Album

$$\begin{bmatrix} \text{T(VL)*} \\ \text{Q' (V)} \\ \text{Q(CET)*} \\ \text{Q(CEM)*} \\ \text{Q(CES)*} \end{bmatrix} \times \begin{bmatrix} \text{I*} & \text{L} \\ & \\ & \\ & \\ & \end{bmatrix} \times \begin{bmatrix} \text{M*} \\ \\ \\ \\ \\ \end{bmatrix}$$

SRA - Graph and Picture Study Skills

$$\begin{bmatrix} \text{T(VL)**} \\ \text{Q(V)*} \\ \text{Q(CET)*} \end{bmatrix} \times \begin{bmatrix} \text{I*} \\ \\ \\ \end{bmatrix} \times \begin{bmatrix} \text{L*} & \text{M*} \\ & \\ & \end{bmatrix}$$

SRA - Map and Globe Skills

$$\begin{bmatrix} \text{T(VL)*} \\ \text{T' (VQ)} \\ \text{Q(V)**} \\ \text{Q(CET)*} \\ \text{Q(CKH)*} \end{bmatrix} \times \begin{bmatrix} \text{F*} & \text{I*} \\ & \\ & \\ & \\ & \end{bmatrix} \times \begin{bmatrix} \text{M*} & \text{R*} \\ & \\ & \\ & \\ & \end{bmatrix}$$

SRA - Multi-Read 2

$$\begin{bmatrix} \text{T(VL)*} \\ \text{Q' (V)} \\ \text{Q(CET)*} \\ \text{Q(CKH)*} \\ \text{Q(CEM)*} \\ \text{Q(CES)*} \end{bmatrix} \times \begin{bmatrix} \text{I*} \\ \\ \\ \\ \\ \\ \end{bmatrix} \times \begin{bmatrix} \text{L*} & \text{M*} \\ & \\ & \\ & \\ & \\ & \end{bmatrix}$$

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COGNITIVE STYLE MAPPING

Modes of Understanding

Draw up a "mode of understanding" for each of the following tasks:

1. Planning and executing a dinner party for 10 experimenting with new recipes you found in Gourmet magazine.

2. Playing baseball.

3. Reading a newspaper.

4. Mowing the lawn.

5. Participating in a conference telephone call.

INTERPRETATION - "STREAM OF CONCIOUSNESS"

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Niagara Falls, New York

COGNITIVE STYLE MAPPING

INTRODUCTION

These are results of the survey that you took where you placed the cards on the sheet. Do you remember?

What I'm going to do is to interpret or tell you about them now. Our survey isn't perfect so as I explain it to you, it is important that you tell me if you feel that it is not a true or accurate picture of yourself. If so, we will change the map because we feel you know yourself better than anyone else. Remember that this was not a test and there were no right or wrong answers.

This is called Cognitive Style Mapping. Cognitive means to know, style is your style or the way you prefer to do something and mapping is putting a picture down on paper. What we did then was to put down on paper a picture of the style that you use to come to know. I say "to know" rather than just "to learn" because sometimes we think of learning in a formal way (just in school), but you are and have been learning or coming to know all your life whether consciously or unconsciously.

The many things you know were learned through your own style, the way you feel comfortable taking in information. If we can identify your style we can use that information here to instruct or teach you in the way that is best for you. Everyone has both strengths and weaknesses and right now we are concerned with your strengths as much as possible. When you first came, you were given a CAT Test to show us what you need to know - Cognitive Style Mapping shows us how you can best learn that material.

We have two forms and each one tells us the same thing. This is a Cognitive Style Map and it is made up of symbols so we can read it quickly. It goes to Mr. Kargatis in the Lab. This sheet has the same information on it but it also has definitions of the symbols and it goes to your teacher so that you can refer to it.

THEORETICAL SECTION

This first section tells how you get information through words and number, and whether you are more comfortable seeing or hearing words, or seeing or hearing numbers.

Compare visual to auditory in both linguistic and quantitative, also compare linguistic and quantitative to each other.

(give specific examples of symbols)

T(VL) - reading, kits, books, boardwork, taking notes

T(VQ) - math book, math kits, taking notes in math

T(AL) - lecture, cassette, discussion, listening to interpretation

T(AQ) - math lecture, cassette, discussion

SENSORY CODES

This section tells how you get information through your five senses - sight, hearing, taste, touch and smell.

(emphasize that it does not show physical ability or disability in these areas such as being hard of hearing)

(check to see that senses are not interfering with theoretical because they are high in score - also check to see how sensory codes might help theoretical learning)

Give examples for each sensory code:

Q(V) - remembering a room color, solving jigsaw puzzles, understanding maps, pictures, etc.

Q(T) - typing, playing piano, knitting, working on machinery, baking bread, comfortable pen, chair, etc.

Q(S) - cooking, using spices, noticing taste differences

Q(O) - smells in room, perfume, paint, cooking, chemistry experiments, garage mechanic, fireman, etc.

Q(A) - music (melody), mechanic, voice tone, background noises, etc.

CULTURAL CODES

(Discuss these as you see student interest or need - perhaps if minors are apparent ask if they have "trouble" with them.) (Here are some examples you might use along with category definitions.)

Q(CEM) - put yourself in book character's place, in your teacher's place, see motivation for people's actions

Q(CES) - appreciating beauty of written word or phrase, beauty as student sees it, ask what "moves" or impresses him

Q(CET) - commitment - want to see job finished, sometimes a "plugger" - will set goals and work towards them - follows rules and directions

Q(CP) - knowing who their close friends, casual friends and acquaintances are, knowing how personal you can become with a person, how close you can sit or stand to them

Q(CS) - knowing emotional and physical strengths and weaknesses (limitations), need Q(CS) to take cognitive survey

Q(CT) - setting up rapport - settling arguments, deciding what movie to see in a group, influencing others' decisions

Q(CH) - acting differently at a funeral than at a picnic, with a stranger or a close friend, perceiving his role as a student - yours as a teacher

Q(CK) - "reading" unwritten and unspoken signals from others - give examples, "body language"

Q(CKH) - believes practice makes perfect, does not mind drill work, sees importance of classtime before taking GED

Q(P) - "putting it all together", instinctively knowing what to to do, how to begin, where to go for help, doing several mental and physical things at once, organizing, example, difference between executive secretary and clerk-typist, resourcefulness

CULTURAL DETERMINANTS

This section shows how you deal with groups of people and your own individuality.

I - Likes working alone, makes up own mind, solves own problems, doesn't need constant direction

F - Uses family to make decisions, family important in life, translates to teacher educationally (that is traditional image of teacher), likes authority image, likes working with teacher

A - Talks with and uses associates to make decisions and offer opinions, likes to learn with friends - group work, group discussion

MODALITIES OF INFERENCE

This section shows how you make decisions or solve problems.

M - Learns what it is, literal thinker, just the facts, categorical, rules and regulations, security in sameness, likes structure and organization, makes quick, sometimes impulsive decisions based on the facts, goes "by the book", learns definitions

D - Learns by what it is not, comparison and contrast, variety is the spice of life, amy play devil's advocate, notices change, may like to be known as being different, true-false quizzes, sees loopholes, may seem disagreeable or argumentative, good debater

R - Learns by examples of concept, likes to explain situations, can expound in both written and verbal forms on subject giving examples, sees relationships, likes to analysis behavior, essay tests, oral exams; may have difficulty with factual material only, draws inference

L - Must use all three of above (M, D, R,) in making decisions or in reasoning. Because of this, individual is thoughtful, needs time to decide, may feel he cannot make up his own mind or never knows enough to do so - in extreme case a procrastinator, thorough individual, looks at all sides of questions.

Then go back over whole map for general overview, combining all three areas of map at once.

Ask questions of students as you interpret - get him involved in reinforcing or in changing th map through his own examples. Most important, gauge the length and depth of your interpretation by the reactions of the student. No one should have to endure the experience if he doesn't want to. Skip areas if interest is low. If you offer specific suggestions to him, write them down under comments so that others can follow through with these suggestions. Above all, make it as informal and unstructured as possible. Most people enjoy talking about themselves as long as they feel we're not prying.

Special Note: The only thing that originators (Dr. Joe Hill and Oakland Community College) of Cognitive Mapping ask is that if we don't know, we admit it rather than give out false information. Anytime you have a question we can't answer, we can call Oakland for the answer.

Board of Education
Adult Basic Education
Niagara Falls, New York

Prescription Sheet #1

COGNITIVE STYLE MAPPING

DATE ____________ LED - R ________ V ________ M ________

STUDENT'S NAME ____________ TEACHER'S NAME ____________

PERSONALIZED INSTRUCTIONAL PROGRAM HARDWARE	SUGGESTED USE		
	MAJOR	MINOR	NEGLIG.
1. Aud-X			
2. Cassette Tape Player			
3. Controlled Reader			
4. Flash-X			
5. Filmstrip			
6. Language Master			
7. Measuring devices ie. thermometers, cup measures, scales,etc.			
8. Models			
9. Movie or VTR			
10. Overhead Projector or Opaque Projector			
11. Phonograph			
12. Primary Typewriter			
13. Process Trainer			
14. Radio			
15. Tach-X			
16. Television Educational			
17. Viewlex			

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Niagara Falls, New York

Prescription Sheet #2

COGNITIVE STYLE MAPPING

DATE____________

LED - R______ V______ M______

STUDENT'S NAME____________

TEACHER'S NAME____________

PERSONALIZED INSTRUCTIONAL PROGRAM SOFTWARE	SUGGESTED USE		
	MAJOR	MINOR	NEGLIG.
1. Catalogs			
2. Crossword Puzzles			
3. Diagrams, globes, maps, photographs, charts			
4. Flash Cards - arithmetic			
5. Magazines with written material			
6. Manipulative learning devices			
7. Newspapers			
8. Picture magazines and books			
9. Pictures			
10. Puzzles			
11. Transportation schedules			
12. Workbooks			
13. Worksheets			

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Niagara Falls, New York

Prescription Sheet #3

COGNITIVE STYLE MAPPING

DATE__________

LED - R______ V______ M______

STUDENT'S NAME__________

TEACHER'S NAME__________

PERSONALIZED INSTRUCTIONAL PROGRAM TECHNIQUES	SUGGESTED USE		
	MAJOR	MINOR	NEGLIG.
GROUPING			
1. Committee work			
2. Independent work			
3. Large group instruction			
4. Lecture			
5. Lecture w visual aids - linguistic			
6. lecture w visual aids - math			
7. Peer tutor			
8. Rap sessions and/or group discussions			
9. Small group instruction			
10. Teacher tutor			
INSTRUCTIONAL ACTIVITIES			
1. Auditory discrimination			
2. Charts			
3. Debate			
4. Demonstrations			
5. Drill work			
6. Enrichment reading to student			
7. Establishing objectives			
8. Esthetic experiences - ie. art, music, poetry, literature, beauty in whatever form student sees			
9. Field trips			
10. Following directions activities			

Board of Education
Adult Basic Education
Niagara Falls, New York

Prescription Sheet #4

COGNITIVE STYLE MAPPING

DATE ____________
LED - R ______ V ______ M ______

STUDENT'S NAME ____________
TEACHER'S NAME ____________

PERSONALIZED INSTRUCTIONAL PROGRAM TECHNIQUES	SUGGESTED USE		
	MAJOR	MINOR	NEGLIG.
INSTRUCTIONAL ACTIVITIES (Cont.)			
11. Leisure reading			
12. Note-taking during listening activity			
13. Note-taking during reading activity			
14. Outlining activities			
15. Role-playing			
16. Sensory experiences - ie. learning through sensory modes			
17. Student art activities			
18. Visual discrimination			
INSTRUCTIONAL NEEDS			
1. Drawing inferences			
2. Encourage leadership role in group discussion			
3. Etiquette and courtesy			
4. Give problem solving exercises in which definitions are included			
5. Give student personal feedback on progress often			
6. Give student specific due dates - structured situations			
7. Kinesthetic learning activities - ie. tracing, copying			
8. Large variety of short assignments (15-20 minutes each)			
9. One continuous activity until completed			
10. Periodic counseling			
11. Provide for expression of contrasting opinions			
12. Quiet environment - few distractions			

Prescription Sheet #5

Board of Education
Adult Basic Education
Niagara Falls, New York

COGNITIVE STYLE MAPPING

DATE__________

LED - R_____ V_____ M_____

STUDENT'S NAME__________

TEACHER'S NAME__________

PERSONALIZED INSTRUCTIONAL PROGRAM EVALUATION METHODS	SUGGESTED USE		
	MAJOR	MINOR	NEGLIG.
1. Actual demonstration by student of process being tested			
2. Auditory answers by student to teacher questions			
3. Essay questions			
4. Fill-in or definitions tests			
5. Matching questions			
6. Multiple choice questions			
7. Self evaluation by student			
8. True-false quizzes			

COGNITIVE STYLE MAPPING
WORKSHOP

DAY 1

12:30 P.M.	Evaluation of knowledge of CSM symbols and their meaning based on previous handouts.
1:00 P.M.	Each participant will take the new Niagara Falls Card File Survey.
1:30 P.M.	Each participant will tally, map, and fill out the necessary forms for his own survey, based soley upon the written instructions provided.
2:00 P.M.	Coffee break.
2:30 P.M.	Discussion of the tallying process and answers to specific questions.
2:45 P.M.	In-depth discussion of each cognitive element.
3:30 P.M.	End of day 1.

DAY 2

12:30 P.M.	Interrelationships of cognitive elements.
1:00 P.M.	Discussion by project staff of implementation procedures for forms used at Whitney Avenue - i.e. the cognitive cycle.
1:30 P.M.	Utilizing a different format than at 9:00 a.m., we will again review the terms and behavior illustrative of them (Picture Identification).
2:00 P.M.	Coffee break.
2:15 P.M.	Socio drama.
3:30 P.M.	End of day 2.

DAY 3

12:30 P.M.	Discussion by project staff of necessary approaches to interpretation -- setting the mood, the informality, the guidelines that have been established.
1:15 P.M.	Role-playing by project staff, sample interpretation to student with "student" responding. Group discussion and response.
2:15 P.M.	Coffee break.
3:00 P.M.	Discussion of "interpretation tips".
3:30 P.M.	End of day 3.

DAY 4

12:30 P.M.	Question and answer on interpretations.
1:00 P.M.	Pairing off of participants to do sample interpretations with each other with accompanying self-evaluation sheet.
2:00 P.M.	Coffee break.
2:15 P.M.	Introduction to Modes of Understanding and the taxonomy of program alternatives -- what it is, how it was obtained, how it works.
3:30 P.M.	End of day 4.

MORNING OF DAY 5

During each teacher's lab time he or she will give an interpretation of one of their own student's maps.

DAY 5

12:30 P.M.	Evaluation of interpretation.
1:30 P.M.	Prescription writing.
2:15 P.M.	Coffee break
2:30 P.M.	Program alternatives in the classroom.
3:30 P.M.	End of day 5.

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Workshop III - Cognitive Style Mapping

GENERAL OBJECTIVE: Report and discussion of project expectations by participating centers

Tuesday - June 17

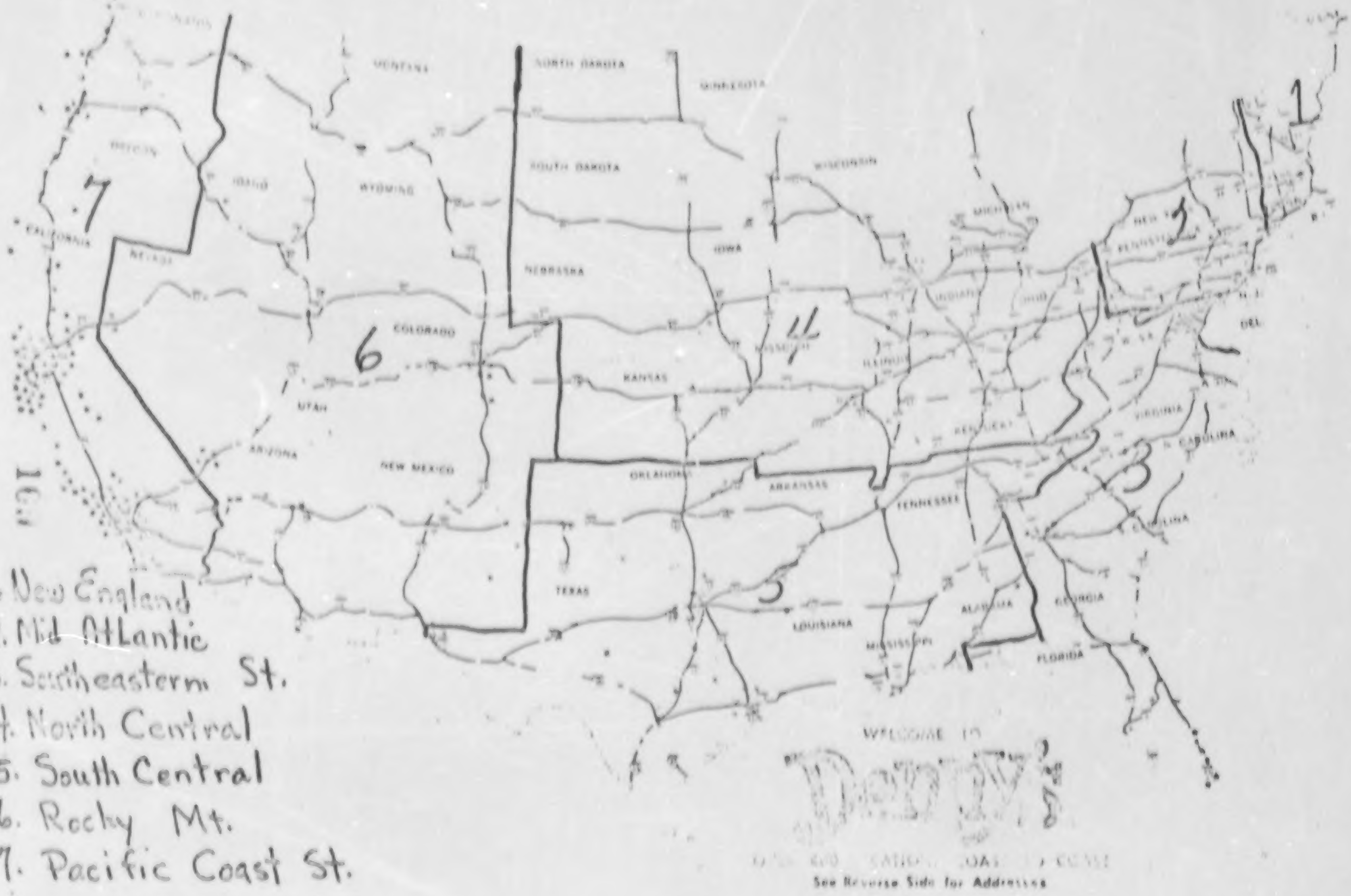
9:00 - 9:15	Meet at center. Discuss and list goals and expectations of participating centers for Tuesday
9:15 - 10:15	Overview of project activity by each center; Albany, Buffalo, Schenectady, White Plains (approximately 15 minutes each).
10:15 - 10:30	Coffee break Distribute copies of Project Expectations and Guidelines
10:30 - 12:00	Participants from each center will respond in writing to the 10 project expectations and guidelines as they applied to their center. If this was completed in advance, these participants can meet with project staff to discuss problems encountered and suggestions for improving implementation.
12:00 - 1:00	Lunch
1:00 - 2:15	Discussion of written responses following format of Project Expectations and Guidelines for Participating Centers.
2:15 - 2:30	Break
2:30 - 3:30	Project staff respond to questions raised and problems identified.
3:30 - 4:00	Participants and project staff make plans for Wednesday with Jim Orr.

Wednesday - June 18

9:00 - 9:15	Meet at center. Introduce Jim Orr. Review with J. Orr goals and expectations of project staff and participants for Wednesday.
9:15 - 10:15	J. Orr response to questions, reactions, problems of participants in - giving cognitive survey interpreting survey to adult students prescribing for adult students implementing prescriptions in Learning Laboratory implementing prescriptions in classroom augmentation
10:15 - 10:30	Break
10:30 - 12:00	J. Orr Review interpretation procedures (include sample interpretations using student maps). Discuss prescriptions in Learning Lab; in classroom.
12:00 - 1:00	Lunch
1:00 - 2:15	Explain modes of understanding and how to use with materials, alternative programs (i.e. methods and techniques, evaluation).
2:30 - 3:30	Continue modes of understanding discussion. Wrap-up.

APPENDIX VIII

Demographic Information and Charts
Showing Numbers Surveyed at Each Center


WASHINGTON
MONTANA
NORTH DAKOTA
MINNESOTA
OREGON
IDAHO
WYOMING
SOUTH DAKOTA
WISCONSIN
MICHIGAN
NEW YORK
PENNSYLVANIA
CALIFORNIA
NEVADA
NEBRASKA
IOWA
INDIANA
OHIO
COLORADO
UTAH
KANSAS
MISSOURI
ILLINOIS
W. VA
DEL
KENTUCKY
VIRGINIA
N. CAROLINA
ARIZONA
NEW MEXICO
OKLAHOMA
ARKANSAS
TENNESSEE
S. CAROLINA
TEXAS
LOUISIANA
MISSISSIPPI
ALABAMA
GEORGIA
FLORIDA
1
2
3
4
5
6
7
WELCOME TO
Denny's
See Reverse Side for Addresses

1 New England
2. Mid Atlantic
3. Southeastern St.
4. North Central
5. South Central
6. Rocky Mt.
7. Pacific Coast St.

enters

lbany	19	M - 11	F - 8
uffalo	21	14	7
chenectady	30	17	13
hite Plains	25	11	14
hitney	45	25	20

	American Indian		Oriental		Black		Spanish Surnamed		Other		Total	
	M	F	M	F	M	F	M	F	M	F	M	F
6-24	1				25	12	1	3	26	24	53	39
5-34			1		5	3	3	1	1	7	10	11
5 & Up					7	7	2	2	6	3	15	12
Totals	1		1		37	22	6	6	33	34	78	62

Total 140

CENTER Albany, Buffalo, Schenectady, White Plains, Whitney (combined)

Am. I. 1 B. 59 Mex. 1 P.R. 1 O. 1

Sp. 9 Other 67 Portagese 1

Age Group	MALES	Age Group	
16-24	53	16-24	39
25-34	10	25-34	11
35-44	5	35-44	7
45-54	5	45-54	4
55-64	4	55-64	
65&up	1	65&up	1

Geographic Areas:

Mid Atlantic	104	Columbia	5	Ecquador	1	W. Indies	2	Portugal	1
Southeastern	3	Puerto Rico	1	Peru	1	Egypt	1	Argentina	1
South Central	5	Italy	1	Bahamas	2	Jamaica	1	Lebanon	1
North Central	3	Mexico	1	Chile	1	Iran	1		
						Korea	1		
						Poland	3		

CAT Scores

0.0-0.9	19	4.0-4.9	23
1.0-1.9	4	5.0-5.9	24
2.0-2.9	20	6.0-6.9	20
3.0-3.9	30		

Last Grade Completed

1.		5.	6	9.	19	No School	2
2.	2	6.	7	10.	24	College	2
3.	5	7.	9	11.	31	ESL	24
4.	5	8.	14	12.	14		

Male
Minority 23
0.0-4.9
Age 16-24

Female
Minority
0.0-4.9
Age 16-24

Center	Surveyed
Albany	19
Buffalo	21
Schenectady	30
White Plains	25
Whitney	45

140 Total (combined)

CENTER Buffalo

Complete through January 1, 1975

Am. I ______ B. 14 Mex. ______ P.R. ______ O. ______

Sp. ______ Other 7

Age Group	MALES	Age Group	FEMALES
16-24	8 9	16-24	1
25-34	5 2	25-34	3
35-44	1	35-44	2
45-54	2	45-54	1
55-64		55-64	
65+up		65+up	

Geographic Areas -

Mid Atlantic 21

CAT Scores

0.0-0.9 3
1.0-1.9 4
2.0-2.9 2
3.0-3.9 ______
4.0-4.9 ______
5.0-5.9 5
6.0-6.9 7

Last Grade Completed

1. ______
2. ______
3. 2
4. 1
5. 2
6. 2
7. ______
8. 3
9. 2
10. 4
11. 2
12. 2

College ______
No School 1

Male
Minority
0.0-4.9
16-24 3

(30)

CENTER SCHENECTADY   Through January 1, 1975 (completed)

Am. I. ____ B. 8 Mex. ____ P.R. ____ O. 1

Sp. ____ Other 21

Age Group	MALES	Age Group	FEMALES
16-24	10	16-24	12
25-34	2	25-34	1
35-44	-	35-44	
45-54	2	45-54	
55-64	3	55-64	
65+up		65+up	

Geographic Areas -

New England		North Central	1	Korea	1
Mid Atlantic	27	South Central		Poland	1
South Eastern		Rocky Mountains			
		Pacific Coast			

CAT Scores

0.0-0.9	8	4.0-4.9	7
1.0-1.9		5.0-5.9	9
2.0-2.9		6.0-6.9	3
3.0-3.9	3		

Last Grade Completed

1.		5.	1	9.	2	College	
2.	1	6.	2	10.	8	No school	1
3.		7.	1	11.	8		
4.	1	8.		12.	5		

Male
Minority
0.0-4.9 14
16-24

SL 2

Females
Minority
0.0-4.9 2
16-24

CENTER WHITE PLAINS (5) Complete through Jan. 1, 1975

Am. I. ____ B. 13 Mex. 1 P.R. 1 O. ____
Sp. 9 Other 1

Age Group	MALES	Age Group	FEMALES
16-24	3	16-24	6
25-34	5	25-34	2
35-44	2	35-44	4
45-54		45-54	2
55-64	1	55-64	
65+up		65+up	

Geographic Areas -

New England		North Central		Columbia	5
Mid Atlantic	7	South Central	2	Puerto Rico	1
South Eastern	2	Rocky Mountains		Italy	1
		Pacific Coast		Mexico	1
				Ecquador	1
				Peru	1
				Bahamas	2
				Chile	1
				W. Indies	1

CAT Scores

0.0-0.9		4.0-4.9	6
1.0-1.9		5.0-5.9	1
2.0-2.9	8	6.0-6.9	1
3.0-3.9	9		

Last Grade Completed

1.		5.	2	9.	4	College	1
2.		6.	2	10.	3	No School	
3.	1	7.	2	11.	3		
4.	3	8.	1	12.	3		

Male
Minority
0.0-4.9
16-24 3 4

Female
Minority
0.0-4.9
16-24 4

ESL 12

CENTER Whitney Avenue

Am. I. 1 B. 15 Mex. ____ P.R. ____ O. ____

Sp. ____ Other 28 Portagese 1

Age Group	MALES	Age Group	FEMALES
16-24	22	16-24	13
25-34	1	25-34	4
35-44		35-44	1
45-54	1	45-54	1
55-64		55-64	
65&up	1	65&up	1

Geographic Areas

Mid Atlantic 37

North Centeral 1

South Central 2

Portugal 1

Poland 2

Lebanon 1

Argentina 1

CAT Scores

0.0-0.9	7	4.0-4.9	6
1.0-1.9		5.0-5.9	6
2.0-2.9	7	6.0-6.9	7
3.0-3.9	12		

Last Grade Completed

1.		5.	1	9.	10	No School	
2.		6.	1	10.	5	College	
3.		7.	6	11.	14		
4.		8.	6	12.	2		

Male
Minority
0.0-4.9
16-24 9

ESL 8

Albany ⑲

AGE GROUPS	AMERICAN INDIAN		ORIENTAL		BLACK/NEGRO		SPANISH SURNAMED		ALL OTHERS		TOTALS	
	M	F	M	F	M	F	M	F	M	F	M	F
16-24					~~////~~	~~////~~			////	//	9	7
25-34										/		/
35 & Over					//						2	
											11	8
Totals					7	5			4	3	⑲	

ok

Buffalo

TOTAL - 21

AGE GROUPS	AMERICAN INDIAN		ORIENTAL		BLACK/NEGRO		SPANISH SURNAMED		ALL OTHERS		TOTALS	
	M	F	M	F	M	F	M	F	M	F	M	F
16-24					𝍸 ||				||	|	9	1
25-34					||					||| ok	2	3
35 & Over					||	||| ok			|		3	3
											14	7
Totals					11	3			3	4	21	

ok

Schenectady

TOTAL (30)

AGE GROUPS	AMERICAN INDIAN		ORIENTAL		BLACK/NEGRO		SPANISH SURNAMED		ALL OTHERS		TOTALS	
	M	F	M	F	M	F	M	F	M	F	M	F
16-24					|||	||			卌 ||	卌 卌 ·K	10	12
25-34			|		|					| ·K	2	1
35 & Over					||				|||		5	
											17	13
Totals			1		6	2			10	11	30	

OK

AGE GROUPS	AMERICAN INDIAN M	AMERICAN INDIAN F	ORIENTAL M	ORIENTAL F	BLACK/NEGRO M	BLACK/NEGRO F	SPANISH SURNAMED M	SPANISH SURNAMED F	ALL OTHERS M	ALL OTHERS F	TOTALS M	TOTALS F
16-24	|				𝍸 |||	|||		|	𝍸 𝍸 |||	𝍸 ||||	22	13
25-34						|		|	|	||	1	4
35 & Over									||	|||	2	3
											25	20
Totals	1				8	4		2	16	14	45	

25 Males
20 Females

Whitney
45

AGE GROUPS	AMERICAN INDIAN M	AMERICAN INDIAN F	ORIENTAL M	ORIENTAL F	BLACK/NEGRO M	BLACK/NEGRO F	SPANISH SURNAMED M	SPANISH SURNAMED F	ALL OTHERS M	ALL OTHERS F	TOTALS M	TOTALS F
16-24	|				卌 |||	|||		|	卌 卌 |||	卌 ||||	22	13
25-34						|		|	|	||	1	4
35 & Over									||	|||	2	3
											25	20
Totals	1				8	4		2	16	14	45	

25 Males
20 Females

Whitney.
(45)

APPENDIX IX

A Taxonomy of Reading Alternatives

(Sample Pages)

TAXONOMY OF READING ALTERNATIVES

A 309(b) Adult Education Special Project

Grant No. OEG-0-74-1763
F/Y 1974-75

HENRY J. KALFAS
Superintendent of Schools

CHARLES H. LONG
Deputy Superintendent of Schools

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Adult and Basic Education
Project Administrator

School District of the City
of
Niagara Falls, New York

ACKNOWLEDGEMENTS

This project was designed to identify preferred cognitive styles and matching reading alternatives for the 0-4 grade reading level adult.

Appreciation is expressed to the various representatives of federal, state, and local governments; participating educators and adult students, all of whom displayed much cooperation in working with project personnel.

The project required the coordinated effort of all departments of the ABE Center. For their many contributions to the success of the project, I would like to acknowledge: Sharon Fake and Lillian McMillen, project associates; Harry Kargatis, Learning Laboratory Specialist; Harold Aloian, Student Advisor; Nancy Koubik, Wendy Wood, Judith Woodley, Adult Basic Education teachers; Marge Hughey, Lena Jones, Marie Witkowski, supportive staff who performed many clerical duties including the administration of the survey and its many related tasks.

Acknowledgement is made to Mr. Henry Kalfas, Superintendent of Schools; Dr. Charles Long, Deputy Superintendent of Schools; Dr. Joseph Hill, President of Oakland Community College, Bloomfield Hills, Michigan, who developed the concept of the Educational Sciences of which cognitive style mapping is a part. A special thanks to Dr. Hill for sharing materials and ideas for adaptation with adult education students. We are also indebted to Mr. James Orr, Professor, Oakland Community College and Ms. Linda Henderson, Educational Sciences Consultant, Wayne State University who assisted in the in-service workshops and provided continued guidance and support.

It is hoped that this taxonomy will be a valuable resource in meeting student needs and goals.

Gerardo Franciosa
Adult and Basic Education
Project Administrator

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3. Flash Cards		
a. Language Arts	5	
4. Kits		
a. Career Education	7	
b. Language Arts	8	
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INTRODUCTION

Instruction in the Niagara Falls Adult Basic Education program is individualized so that each student is permitted to meet his educational needs at his own rate and level of performance.

The HEW 309(b) Special Project, F/Y 1974-75 titled Identification of Preferred Learning Styles and Matching Adult Reading Alternatives at the 0-4 Grade Reading Level was a two-pronged project. One prong was concerned with the research, training in cognitive style mapping and development of a survey and process which would assess the adult student's preferred cognitive style. The results of the cognitive style mapping process would then assist the instructional staff in prescribing personalized instruction aimed at "the whole person".[1] The other prong of the project was the development of a taxonomy of alternative reading programs, methods and materials presently available at the Whitney Avenue Adult Education Center, located in Niagara Falls, New York. The taxonomy would provide the instructional staff with a comprehensive resource file of existing adult educational materials, both hardware and software, for use in prescribing educational activities matched with each individual student's level of educational development and preferred cognitive style.

Since the term "taxonomy" has several different interpretations, it is necessary to explain its use in this particular endeavor. "Taxonomy" is usually associated with the study of the general principles of biological scientific classification, e.g. orderly classification of plants and animals according to their presumed natural relationships.[2] Because this process has been useful to biologists as a means of insuring accuracy of communication and as a means of understanding the organization and interrelation of various parts of the animal and plant world, it has been adapted for use in education. In this work, taxonomy is defined as a "sorting and grouping" of programs, methods and materials organized according to the probable modes of understanding.[1]

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[1] Gerardo F. Franciosa, "Identification of Preferred Learning Styles and Matching Adult Reading Alternatives at the 0-4 Grade Reading Level" (final report for HEW 309(b) Special Project, F/Y 1974-75), pp. 2-3.

[2] Webster's Seventh New Collegiate Dictionary, Springfield, Mass.: G. & C. Merriam Co., 1970, p. 904.

Although the HEW 309(b) Special Project specified a taxonomy of alternative reading programs and materials for the 0-4 grade reading level it was found in working with the instructional staff that an immediate need for assessing materials in reading and mathematics at the 0-6 grade reading level existed. Therefore, the taxonomy was expanded to meet this need.

A committee of classroom, learning laboratory and project personnel experienced in the principles of cognitive style mapping was formed to develop "probable modes of understanding" for the taxonomy materials.[2] Each taxonomy entry was evaluated with respect to its grade level, format and probable mode of understanding.[3]

The taxonomy includes both commercial hardware and software programs and materials as well as materials developed by the New York State Department of Education, Bureau of Adult Continuing Education and Bureau of Curriculum Development. The listing of commercial materials is not an endorsement of the products but rather a comprehensive listing of programs and materials available to the instructional staff and to the adult student at the Whitney Avenue Adult Education Center. This is a partial list and is not intended to list all of the programs and materials available on today's market.

The programs and materials found in the taxonomy are specifically for the adult student or are at least suitable where elementary or secondary levels are involved. The instructional staff has often found it necessary to develop its own materials to meet specific student needs, especially at the 0-4 level, using the commercial materials for supplemental purposes. The primary concern of the instructional staff is to provide as personalized a program as possible to meet each adult student's short term and long term goals and needs.

---

[1] Roget's International Thesaurus, 3rd edition, Thomas Y. Crowell Co., 1962, p. 29.

[2] See "Probable Modes of Understanding", p. 6-7.

[3] Since the time limitations of the project made it impossible to do readibility levels for each piece of material, publishers' grade levels were used.

INFORMATION FOR USE OF TAXONOMY AND GLOSSARY

The Taxonomy of Suggested Adult Reading Program Alternatives for the 0-6 Grade Level was organized in the following manner:

I. HARDWARE

A. Cognitive Category

1. Card Reader (Language Master)
2. Cassette Tape Player (Cassette Tapes)
3. Filmstrip Cassette Tape or Filmstrip Record Player
4. Filmstrip Projector
5. Measuring Devices
6. Models
7. Movie Projector or Video Tape Recorder
8. Overhead Projector
9. Phonograph
10. Primary Typewriter
11. Process Trainer
12. Programmed Device (Min-Max Machine)
13. Radio (News Program)
14. Reading Performance Instrument (Controlled Reader)
15. Reading Performance Instrument (Guided Reader)
16. Record Player (Kits)
17. Tachistoscope (Flash-X)
18. Tachistoscope (Tach-X)
19. Teaching Device (Aud-X Sight-Sound Synchronized Audio-Visual Unit)
20. Teaching Machine (Auto Tutor Projection on a Self-Contained Viewing Screen for 35mm Film Cassette)
21. Teaching Device [Sight-Sound Synchronized Audio-Visual Unit (Systems 80)]

B. Subject

1. Career Education
2. Language Arts

B. Subject (Continued)

   3. Mathematics
   4. Science
   5. Social Living Skills
   6. Social Studies

C. Publisher

D. Level

   Note: Those materials organized in a series have been grouped by consecutive levels rather than individual levels.

II. SOFTWARE

A. Cognitive Category

   1. Checkups
   2. Crossword Puzzles
   3. Flash Cards
   4. Kits
   5. Magazines
   6. Manipulative Learning Devices
   7. Newspapers
   8. Pamphlets
   9. Paperbacks
   10. Photographs and Pictures
   11. Poster Cards
   12. Textbooks
   13. Workbooks

B. Subject

   1. Career Education

B. Subject (Continued)

  2. Language Arts
  3. Mathematics
  4. Science
  5. Social Living Skills
  6. Social Studies
  7. Vocational Education

C. Publisher

D. Level

Note: Those materials organized in a series have been grouped by consecutive levels rather than individual levels.

III. TECHNIQUES

A. Grouping

  1. Cognitive Category

    a. Committee work
    b. Group instruction (student interaction)
    c. Independent work
    d. Lecture
    e. Peer tutor
    f. Rap sessions
    g. Teacher tutor

B. Instructional Activities

  1. Cognitive Category

    a. Art activities
    b. Auditory discrimination

1. Cognitive Category (Continued)

    c. Charts
    d. Debate
    e. Demonstrations - teacher
    f. Drill work
    g. Field trips
    h. Following directions
    i. Leisure reading
    j. Note-taking
    k. Outlining activities
    l. Reading to student
    m. Role playing - simulation exercises
    n. Visual discrimination

IV. EVALUATION METHODS

A. Cognitive Category

1. Essay questions
2. Fill-in and definition tests
3. Matching questions
4. Multiple choice questions
5. Oral response to teacher questioning
6. Self-evaluation by student
7. True-false quizzes

GLOSSARY

Augmentation - the strengthening of the elements of a student's cognitive style

Cognition - to come to know; the act or process of knowing including both awareness and judgement

Cognitive - of, relating to, or involving cognition; the elements of perception; based on or capable of being reduced to empirical factual knowledge

Cognitive categories - the types of instructional tools and methods (e.g. textbook, controlled reader, committee work)

Cognitive elements - the components which make up an individual's cognitive style

Cognitive style map - a pictorial representation of a student's cognitive style

Cognitive style mapping - a procedure to put down on paper a picture of the way an individual obtains meaning

Cultural determinants - the part of a cognitive map which shows the individual's preference for who influences his search for meaning and how he interprets meaning

Empirical - originating in, or based on, observation or experience

Hardware programs - audio visual materials with accompanying workbooks, worksheets, etc., utilizing devices such as tape recorders, phonographs, models, and others that are used as instructional equipment

L.E.D. - level of educational development

Major orientation - a preference and/or ability in a given cognitive element used most of the time. On the cognitive style map, a major orientation indicates that a student received a score in the range of the 50-99th percentile. The major orientation is shown as "all caps" [e.g. T(AL)].

Minor orientation - a preference and/or ability in a given cognitive element used some of the time. On the cognitive style map, a minor orientation indicates that a student received a score in the range of the 26-49th percentile. The minor orientation is shown as "caps with a prime" [e.g. T'(AL)].

Modalities of inference - the part of a cognitive map that shows how an individual reasons and how he draws conclusions

Negligible orientations - little or no preference and/or ability in a given cognitive element. On the cognitive style map, a negligible orientation indicates that a student received a score in the range of the 0-25th percentile. A negligible orientation is usually omitted or if it is shown it is "crossed out" [e.g. ~~T(AL)~~].

Probable mode of understanding - a mini-map of the set of suggested cognitive elements advantageous to the performance of an educational task

e.g. Cassette Tape

$$\begin{bmatrix} T(AL) \\ Q(A) \\ Q(CET) \end{bmatrix} \times \begin{bmatrix} I \end{bmatrix} \times \begin{bmatrix} M\ R \end{bmatrix}$$

Software programs - instructional materials that do not rely upon the use of hardware

Style - mode of expressing thought in language; a manner of expression characteristic of an individual; a customary, or preferred way of doing something

Symbolic orientations - the part of a cognitive map which shows the ways an individual derives meaning from symbols related to his personal experiences and the world about him

Taxonomy - a sorting and grouping of programs, methods and materials according to cognitive categories

PROBABLE MODES OF UNDERSTANDING

A committee consisting of classroom, learning laboratory and project personnel experienced in cognitive style mapping was formed to develop probable modes of understanding for the taxonomy materials. Each taxonomy entry was evaluated with respect to its grade level, format, and use in individualized instruction.

Because of the variance of programs within each hardware and software category, it was necessary to refine the cognitive elements of the mini-map. To indicate to what degree each element is recommended, a system of asterisks (*) and primes (') was developed. Minor orientations are indicated by a prime [e.g. T'(AL)]. The degree of strength of major orientations is indicated by asterisks from one (*) to three (***). Negligible orientations are either crossed out or omitted [e.g. ~~T(AL)~~].[1]

e.g. Educational Developmental Laboratories
Listen and Read Cassette EA

$$\begin{bmatrix} T(AL)^{**} \\ T(VL)^{**} \\ Q'(A) \\ Q(CET)^{*} \\ Q'(CKH) \end{bmatrix} \text{X} \begin{bmatrix} F^{*}\ I^{*} \\ \\ \\ \\ \\ \end{bmatrix} \text{X} \begin{bmatrix} M^{**} \\ R^{*} \\ \\ \\ \\ \end{bmatrix}$$

When using the probable modes of understanding included in the taxonomy, the following cautions should be noted:

a) the probable modes of understanding stated are for individualized use of the materials; for group use the probable modes of understanding may change
b) the probable modes of understanding are to be considered as suggestive rather than definitive
c) the probable modes of understanding are provided to show those elements necessary to the completion of the task; however, a perfect match between student map and the mode of understanding is not always necessary due to augmentation

---

[1] Refer to Glossary, pp. 8-9 for definitions.

The committee recommends that the use of probable modes of understanding for prescriptive purposes should be restricted to those individuals who have received formal training in cognitive style mapping and are experienced in its use. For those who have not had training, it is hoped that an awareness of the cognitive elements inherent in the use of the instructional materials will be gained.

DEFINITIONS FOR COGNITIVE STYLE MAPPING ELEMENTS

The following definitions were developed by a committee of classroom, learning laboratory and project personnel, experienced in cognitive style mapping. The symbols, terms, and definitions were adapted from work developed by Dr. Joseph E. Hill, Oakland Community College, originator of the concept of cognitive style mapping.

Theoretical Elements

T(AL)	Theoretical (Auditory Linguistic)	Preference for acquiring and communicating meaning through the spoken word
T(AQ)	Theoretical (Auditory Quantitative)	Preference for acquiring and communicating meaning through numerical symbols, relationships, and measurements that are spoken
T(VL)	Theoretical (Visual Linguistic)	Preference for acquiring and communicating meaning through the written word
T(VQ)	Theoretical (Visual Quantitative)	Preference for acquiring and communicating meaning through numerical symbols, relationships, and measurements that are seen

Qualitative Sensory Elements

Q(A)	Qualitative (Auditory)	Ability to perceive meaning through the sense of hearing
Q(O)	Qualitative (Olfactory)	Ability to perceive meaning through the sense of smell

Qualitative Sensory Elements (Continued)

Q(S)	Qualitative (Savory)	Ability to perceive meaning through the sense of taste
Q(T)	Qualitative (Tactile)	Ability to perceive meaning through the sense of touch
Q(V)	Qualitative (Visual)	Ability to perceive meaning through the sense of sight

Qualitative Cultural Code Elements

Q(P)	Qualitative (Propriaceptive)	Ability to coordinate a number of behaviors simultaneously in order to perform a complex task. Indicates someone who uses initiative and intuition (a sixth sense)
Q(CEM)	Qualitative (Code Empathy)	Sensitivity to the ideas and feelings of others; ability for someone to put himself in another person's place
Q(CES)	Qualitative (Code Esthetic)	Ability to enjoy the beauty of an object or an idea
Q(CET)	Qualitative (Code Ethic)	Commitment to one's own set of values, a group of principles, obligations and/or duties. This commitment need not imply morality.
Q(CH)	Qualitative (Code Histrionic)	Ability to perceive expected behavior and act accordingly

Qualitative Cultural Code Elements (Continued)

Q(CK)	Qualitative (Code Kinesics)	Ability to understand and use body language
Q(CKH)	Qualitative (Code Kinesthetic)	Ability to perform gross and fine motor skills according to a recommended form or given model; a willingness to practice to achieve an accepted form
Q(CP)	Qualitative (Code Proxemics)	Ability to judge physical and social distance between oneself and another and act accordingly
Q(CS)	Qualitative (Code Synoetic)	Ability to know oneself; one's physical, social, and mental strengths and weaknesses
Q(CT)	Qualitative (Code Transactional)	Ability to develop rapport with others and thereby influence them

Cultural Elements

A	Associates	Seeks and interprets meaning through interaction with associates and/or peers
F	Family	Seeks and interprets meaning through interaction with family and/or authority figures
I	Individuality	Seeks and interprets meaning independently through his own individuality

Modalities of Inference

M	Magnitude	A tendency to reason and behave according to established norms, rules or categorical classifications

Modalities of Inference (Continued)

D	Difference	A tendency to reason and behave in terms of one-to-one contrasts or comparisons; perceives what a concept is by what it is not
R	Relationship	A tendency to reason and behave through the relationships inferred from the synthesis of separate elements into a unified whole, or through the analysis of an idea into its component parts
L	Appraisal	A tendency to reason and behave using all methods of reasoning (M, D, and R) giving equal weight to each

COGNITIVE STYLE MAPPING

Cognitive Category Cassette Tape Player (Cassette Tapes) Hardware Programs and Materials

Subject LANGUAGE ARTS

Level K to 8 / Multi

Publisher	Title	C. Date	Probable Mode of Understanding	Level	Description
Addison-Wesley Publishing Company	Target Red Auditory-Visual Discrimination	1972	$\begin{bmatrix} T(AL)^* \\ T'(VL) \\ Q(V)^* \\ Q(CET)^* \\ Q(CKH)^* \end{bmatrix} \text{X} \begin{bmatrix} F^{**} \\ I^* \end{bmatrix} \text{X} \begin{bmatrix} M^* \end{bmatrix}$	1-2	READING Kit - audio tapes, spirit master sheets, teacher's guide
	Target Yellow Phonetic Analysis Kit	1972	$\begin{bmatrix} T(AL)^* \\ T'(VL) \\ Q(A)^{**} \\ Q(CET)^* \\ Q(CKH)^* \end{bmatrix} \text{X} \begin{bmatrix} F^*I^* \end{bmatrix} \text{X} \begin{bmatrix} M^* \\ R' \end{bmatrix}$	1-2	READING Kit - audio tapes, spirit master sheets, teacher's guide
	Target Blue Structural Analysis Kit	1972	$\begin{bmatrix} T(AL)^* \\ T(VL)^* \\ Q(A)^* \\ Q(CET)^* \\ Q(CKH)^* \end{bmatrix} \text{X} \begin{bmatrix} F^*I^* \end{bmatrix} \text{X} \begin{bmatrix} M^* \\ R' \end{bmatrix}$	3-4	READING Kit - audio tapes, spirit master sheets, teacher's guide

COGNITIVE STYLE MAPPING

Cognitive Category Filmstrip Projector

Subject LANGUAGE ARTS

Level 4 to 12

Hardware Programs and Materials

Publisher	Title	C. Date	Probable Mode of Understanding	Level	Description
Houghton Mifflin	Reading for Meaning		$\begin{bmatrix} T(VL)^* \\ Q(V)^* \\ Q(CET)^* \end{bmatrix} \text{X} \begin{bmatrix} I^* \end{bmatrix} \text{X} \begin{bmatrix} M^* \end{bmatrix}$	4-9	READING Filmstrips
Encyclopaedia Brittannica Educational Corporation	Organizing Your Writing	1958	$\begin{bmatrix} T(VL)^{**} \\ Q(V)^* \\ Q(CKH)^{**} \\ Q(CET^* \end{bmatrix} \text{X} \begin{bmatrix} I^{**} \end{bmatrix} \text{X} \begin{bmatrix} M^* \; R^* \end{bmatrix}$	4-12	Filmstrips
	Punctuation and Capitalization	1971	Use Above Mode	4-12	Filmstrips
	Understanding the Sentence	1961	Use Above Mode	4-12	Filmstrips

COGNITIVE STYLE MAPPING

Cognitive Category Kits

Subject LANGUAGE ARTS

Level 0 to 14

Software Programs and Materials

Publisher	Title	C. Date	Probable Mode of Understanding	Level	Description
Addison-Wesley Publishing Co.	Reading Development Kit A	1968	$\begin{bmatrix} T(VL)^* \\ Q'(V) \\ Q(CET)^* \\ Q(CEM)^* \\ Q'(CKH) \end{bmatrix} \times \begin{bmatrix} I^* \end{bmatrix} \times \begin{bmatrix} L^* \; M^* \end{bmatrix}$	0 - 3	READING Pretest, progress record, informal reading development inventory, teacher manual
	Reading Development Kit B	1968	$\begin{bmatrix} T(VL)^* \\ Q'(V) \\ Q(CET)^* \\ Q(CEM)^* \\ Q'(CKH) \end{bmatrix} \times \begin{bmatrix} I^* \\ F' \end{bmatrix} \times \begin{bmatrix} L^* \; M^* \end{bmatrix}$	4 - 6	READING Pretest, progress record, informal reading development inventory, teacher manual
Allyn and Bacon, Incorporated	Full Count	1974	$\begin{bmatrix} T(VL)^* \\ Q(V)^* \\ Q(CEM)^* \\ Q(CET)^* \\ Q(CKH)^* \\ Q(CES)^* \end{bmatrix} \times \begin{bmatrix} I^* \end{bmatrix} \times \begin{bmatrix} L^* \; M^* \end{bmatrix}$	1	READING Spirit master worksheets, teacher guide

COGNITIVE STYLE MAPPING

Cognitive Category Textbooks
Subject LANGUAGE ARTS
Level Beginning to 8 / Multi / ESL

Software Programs and Materials

Publisher	Title	C. Date	Probable Mode of Understanding	Level	Description
Aldine Publishing Co.	The Mature Student's Guide to Reading and Composition - Book 1	1975	$\begin{bmatrix} T(VL) \\ Q(A)^* \\ Q(CET)^* \\ Q(CKH)^* \end{bmatrix} \times \begin{bmatrix} I^{**} \\ F' \end{bmatrix} \times \begin{bmatrix} M^* \; R^* \end{bmatrix}$	Beg.-3	READING AND WRITING Text, teacher guide
	The Mature Student's Guide to Reading and Composition - Book 2	1975	$\begin{bmatrix} T(VL)^* \\ Q(CET)^* \\ Q(CKH)^* \end{bmatrix} \times \begin{bmatrix} I^* \\ F' \end{bmatrix} \times \begin{bmatrix} L^* \; M^* \end{bmatrix}$	4 - 6	READING AND WRITING Text
Amsco School Publications, Inc.	RSVP - Reading, Spelling, Vocabulary, Pronunciation Book 1	1972	$\begin{bmatrix} T(VL)^* \\ Q(V)^* \\ Q(CET)^* \\ Q(CKH)^* \\ Q(CEM)^* \end{bmatrix} \times \begin{bmatrix} I^* \end{bmatrix} \times \begin{bmatrix} M^* \end{bmatrix}$	4	READING Text, answer key

COGNITIVE STYLE MAPPING

Cognitive Category   Group Instruction - Student Interaction   Techniques

Subject   GROUPING

Probable Mode of Understanding

$$\begin{bmatrix} T(AL) \\ T(VL) \\ T(AQ) \\ T(VQ) \\ Q(A) \\ Q(V) \\ Q(CEM) \\ Q(CS) \\ Q(CET) \\ Q(CK) \\ Q(CP) \end{bmatrix} X \begin{bmatrix} F \\ I \end{bmatrix} X \begin{bmatrix} L \; M \end{bmatrix}$$

COGNITIVE STYLE MAPPING

Cognitive Category Following Directions

Subject INSTRUCTIONAL ACTIVITIES

Techniques

Probable Mode of Understanding

$$\begin{bmatrix} T(AL) \\ T(VL) \\ T(AQ) \\ T(VQ) \\ Q(V) \\ Q(A) \\ Q(CET) \\ Q(CKH) \end{bmatrix} X \begin{bmatrix} F \end{bmatrix} X \begin{bmatrix} M \end{bmatrix}$$

COGNITIVE STYLE MAPPING

Cognitive Category Essay Questions

Evaluation Methods

Probable Mode of Understanding

$$\begin{bmatrix} T(VL) \\ T(VQ) \\ Q(CS) \\ Q(CET) \\ Q(P) \end{bmatrix} X \begin{bmatrix} I \end{bmatrix} X \begin{bmatrix} R\ M \end{bmatrix}$$

COGNITIVE STYLE MAPPING

Cognitive Category **Fill-in and Definitions Tests**

Evaluation Methods

Probable Mode of Understanding

$$\begin{bmatrix} T(VL) \\ T(VQ) \\ Q(V) \\ Q(CET) \end{bmatrix} \times \begin{bmatrix} I \end{bmatrix} \times \begin{bmatrix} M \end{bmatrix}$$

APPENDIX X

Dissemination Activities

DISSEMINATION ACTIVITIES

1. Project staff presented overview of project to local School Superintendent and Deputy Superintendent.
2. Project staff presented the project overview at a Region II dissemination workshop held at Rutgers University in July, 1974.
3. Project staff attended the New York State Reading Conference at the Concord in October, 1974. At that time, many contacts were made with educators from several cities in New York State. The HEW 309(b) project was discussed with many people.
4. A discussion of the project in a local radio presentation with the Superintendent of Schools.
5. Project staff worked with adult educators in Buffalo, Albany, Schenectady, and White Plains giving overview of project and how they could become involved.
6. Oakland Community College consultants mentioned this project in their many presentations around the United States and Canada.
7. Project staff presented the project overview to New York ABE coordinators in Albany in January, 1975.
8. The following four workshops were conducted in Niagara Falls:
    1. Treadway Inn, Niagara Falls - March 2-5, 1975 (National Conference) - See 5. above
    2. Whitney Avenue Adult Center - April 9-11, 1975 (participating centers) - See 5. above
    3. Whitney Avenue Adult Center - April 23-25, 1975 (participating centers) - See 5. above
    4. Whitney Avenue Adult Center - June 17 and 18, 1975 (participating centers)
9. Project staff presented overview of project to Regional Directors at a meeting in April, 1975.

10. A presentation was given at the Attica Correctional Facility in April, 1975.

11. Project staff presented overview of project to American Educational Sciences Association in May, 1975.

12. Project staff presented overview of project to New York Association of Continuing Education in May, 1975.

13. Project staff presented overview of project to International Reading Association in May, 1975.

14. Project staff answered inquiries (correspondence) on Cognitive Style Mapping.

15. Project staff gave overview of Cognitive Style Mapping to visitors at the center.

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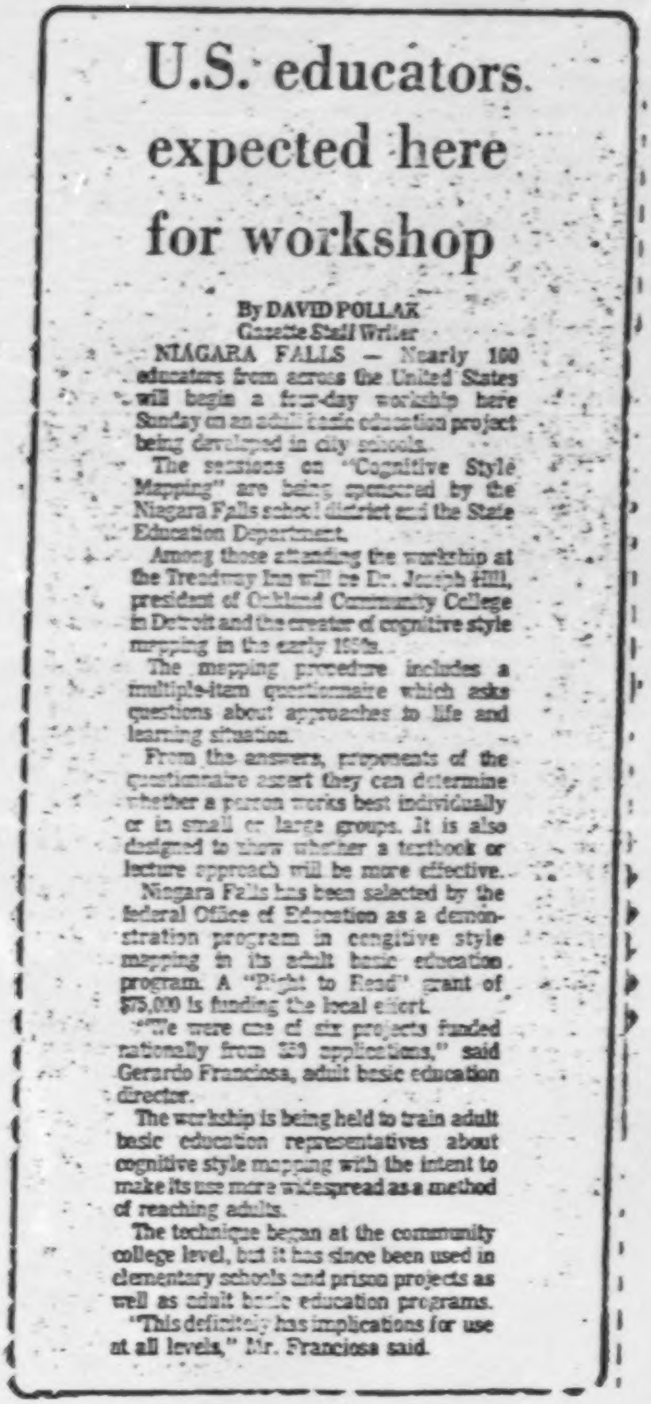
8-B Niagara Gazette Tuesday, March 4, 1975

COMPARING NOTES — More than 75 educators from across the United States are gathered here for a three-day conference on adult basic education. Together at the Treadway Inn are, from left, Dr. Joseph Hill, president of Oakland Community College, Rochester, Mich.; Gerardo Franciosa, director of adult education, Niagara Falls; and Dr. Elois Skeen of the State University of New York at Buffalo. — Gazette Photo.

March, 1975



U.S. educators expected here for workshop

By DAVID POLLAK
Gazette Staff Writer

NIAGARA FALLS — Nearly 100 educators from across the United States will begin a four-day workship here Sunday on an adult basic education project being developed in city schools.

The sessions on "Cognitive Style Mapping" are being sponsored by the Niagara Falls school district and the State Education Department.

Among those attending the workship at the Treadway Inn will be Dr. Joseph Hill, president of Oakland Community College in Detroit and the creator of cognitive style mapping in the early [illegible].

The mapping procedure includes a multiple-item questionnaire which asks questions about approaches to life and learning situation.

From the answers, proponents of the questionnaire assert they can determine whether a person works best individually or in small or large groups. It is also designed to show whether a textbook or lecture approach will be more effective.

Niagara Falls has been selected by the federal Office of Education as a demonstration program in congitive style mapping in its adult basic education program. A "Right to Read" grant of $75,000 is funding the local effort.

"We were one of six projects funded nationally from [illegible] applications," said Gerardo Franciosa, adult basic education director.

The workship is being held to train adult basic education representatives about cognitive style mapping with the intent to make its use more widespread as a method of reaching adults.

The technique began at the community college level, but it has since been used in elementary schools and prison projects as well as adult basic education programs.

"This definitely has implications for use at all levels," Mr. Franciosa said.

The Right to Read
Vol. 3, No. 5

December 1974

FORUM AND EXCHANGE

The University of the State of New York • The State Education Department

COGNITIVE STYLE MAPPING—Sharon Fake, teacher on special assignment; Gerardo Franciosa, adult education administrator; and Lillian McMillen, instructional specialist; discuss strategies for assuring a student of progressing according to the manner most comfortable to him. With a special Right To Read grant, they will evaluate the process of assessing students' learning styles and prescribing study accordingly at the Whitney Avenue Adult Center, Niagara Falls.

Styles of Learning Assessed in Falls Adult Program

"If we can determine on intake the best mode of learning for our adult student, we have a far better chance of assuring his early success in the program and retaining his participation," Gerardo Franciosa, adult education administrator at the Whitney Avenue Adult Center, Niagara Falls, commented.

"Cognitive style mapping" is the term used to describe a process by which the individual is first assessed of his or her most comfortable manner of learning: whether it be visual or auditory, independently or in a group. Part of the City School District of Niagara Falls, the Whitney Avenue Adult Center serves some 1,000 students a year in full-time day and evening adult classes. Center personnel have been drawing upon research documented by Joseph E. Hill, president of Oakland

INDIVIDUALIZED LEARNING—A student who is learning English as a second language discusses idiomatic problems with a lab teacher (right) in the Whitney Avenue Center, Niagara Falls. While much programmed and technically sophisticated equipment is available for the learner, there are times when the peculiarities of word usage require a little human interpretation.

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newsletter

Volume II, Number IV August, 1974

DIRECTOR'S NOTE

Dear Colleague:

Our thanks to the participants and sponsoring agencies of the HEW Region II Innovation Dissemination Seminar held at Rutgers Continuing Education Center July 15-18, 1974. Without your cooperation and assistance the Seminar would not have been a success, although the real success of the Seminar will be determined by the extent to which we continue our efforts to follow up and to see the implementation of your recommendations throughout our region.

The two specific purposes of the Seminar were:

1. To follow up on the Arden House Conference to develop models for dissemination of innovation in HEW Region II (New York, New Jersey, Puerto Rico, the Virgin Islands); and

2. To invite the project directors of various innovative projects funded by the U. S. Office of Education for the fiscal year 1974-75 that have relevance and/or application to adult education in our region to share with us their innovative ideas, goals, objectives and plans.

The sponsoring agencies of this Seminar included the State Departments of Education of New Jersey, New York, the Virgin Islands and Puerto Rico; Teachers College, Columbia University; and the HEW Region II Staff Development Project. The participants included some out-of-region guests, particularly Region I and Region VIII.

The Seminar was attended by a total of 84 participants. (Out of a total of 144 invitations sent, there were 110 responses. One hundred two confirmed their participation but 13 cancelled and five failed to appear.) New Jersey and New York were equally represented by 33 participants each. Both delegations were dominated by males, 19 for New Jersey and 20 for New York, leaving 14 women for New Jersey and 13 for New York. There were four participants from Puerto Rico, two men and two women. The Virgin Islands were not represented. There was a total of 14 out-of-region participants.

(continued on p. 2)

NEW JERSEY RESOURCE CENTER TRAINING SCHEDULE

Montclair State College/Jersey City State College

October 5, 1974
November 23, 1974
March 22, 1974

For further information, contact:
Joseph Tiscornia 201 547 3701
or
Warren Ceurvels 201 893 4318

Kean College

September 23, 1974
September 27, 1974
October 8, 1974
October 9, 1974
October 21, 1974
October 22, 1974
October 23, 1974
November 11, 1974
November 12, 1974
November 13, 1974

For further information, contact:
Seymour Barasch 201 527 2207

Trenton State College

September 21, 1974
September 29, 1974
September 30, 1974
October 18, 1974
October 19, 1974

For further information, contact:
Harry Van Houten 609 771 2452

Glassboro State College

September 24, 1974
October 16, 1974

For further information, contact:
Richard Hitt 609 455 7131

The work presented or reported herein was performed pursuant to a grant #OEG-0-72-1442 (V223C21) from the U. S. Office of Education, DHEW. However, the opinions expressed herein do not necessarily reflect the position or policy of USOE, and no official endorsement by USOE should be inferred.

newsletter

newsletter

Volume II, Number IV August, 1974

NIAGARA FALLS ABE PROGRAM: IDENTIFICATION OF PREFERRED COGNITIVE STYLES AND MATCHING READING PROGRAM ALTERNATIVES FOR ADULTS AT THE 0-4 GRADE READING LEVEL

Directed by GERARDO FRANCIOSA

Board of Education
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Niagara Falls, New York 14302
Telephone: 716 285 5251

The general objective of this project is to provide a program of instruction specifically designed for each participating minority student according to his abilities, cognitive styles, and previous experiences. This will allow him to develop basic reading and language arts skills to his potential at his own pace.

Some elements of the project will focus directly on the minority and rural students. Other elements focus on the minority and rural students less directly, but no less importantly, by focusing on the teachers and curricular structures. The evaluation design will include a composite of pre-post standardized testing, continuous observation and evaluation of participating students in both controlled and non-controlled groups, and evaluation by agency, preferably minority.

The Project addresses itself to the following questions:

. How can the instructional staff develop a method to identify the preferred cognitive styles of incoming ABE students at the 0-4 reading level, particularly the target population?

. How can the results of this method be used to help the incoming student meet with learning success from the outset of his instruction?

. What are the reading program options for the 0-4 level target individuals which can be matched with their cognitive styles?

Innovative adult education project could become a national prototype

By DAVID POLLAK
Gazette Staff Writer

NIAGARA FALLS — The material seems more suited to the psychiatrist's couch than an adult education center.

"I can act hurt or sad in order to get my way . . . . I am ignored by people . . . . I live according to what I think is right . . . . I decide my hair needs washing by the way it feels . . . . I enjoy the beauty of the stars."

The statements, however, are part of a project at the Whitney Avenue Adult Basic Education Center attempting to find out what teaching methods best reach adults in a basic education environment.

"It is no longer enough to diagnose the academic, social and physical needs to form the basis for instruction," Gerardo Franciosa, assistant director of the Whitney Ave. center, said. "How a person best learns must also be determined."

More than 100 students this year have already been given a 109-item survey which asks general questions about approaches to life and learning situations.

From an individual's answers, the staff said it can determine whether the person works best individually, in small groups or in large groups. It is also designed to show whether a textbook or lecture approach will be more effective, as well as giving clues to an individual's self-esteem and outlook toward others.

Work completed by the Whitney Ave. team has already been presented in Albany to state officials from both the continuing education and corrections departments. A $100,000 federal grant is being sought which could turn the Niagara Falls project into a national prototype.

Items on the survey deal directly with determining whether an individual is strong in math or reading skills, for example, but it also goes beyond that — into his personality and ability to use his senses.

"An undereducated adult is not that anxious to reveal himself because he has not had past success in a school environment," Harold Aloian, a counselor at Whitney Ave., said. "This is one way to get the person to open up."

The survey includes a variety of items like those noted earlier and the following. After each statement, the student is asked to indicate whether it applies to his life "most of the time," "some of the time," or "hardly ever."

— "I prefer to talk with friends by telephone rather than writing notes to them."

— "I take longer than others in making up my mind because I want to know more facts than they do."

— "My written ideas are better than my spoken ones."

— "Before taking a new job I would talk it over with my friends."

— "I understand more easily by reading than by hearing."

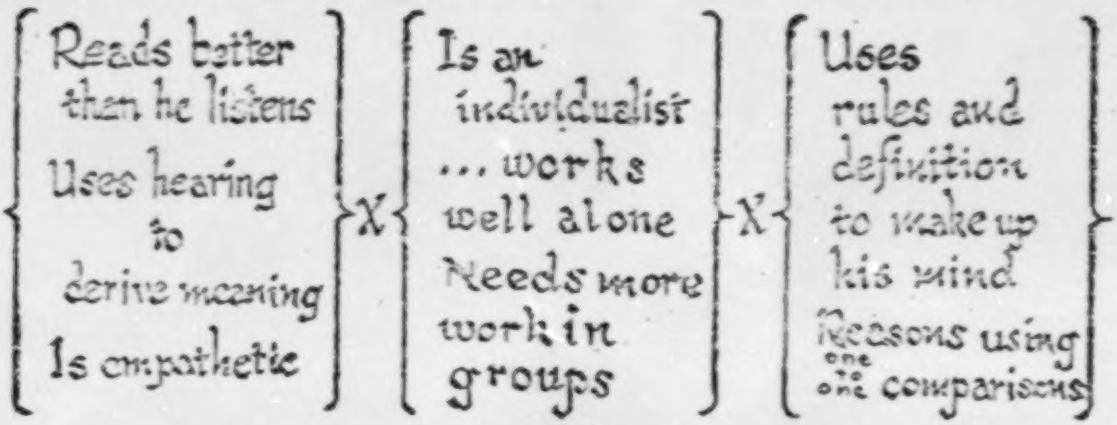
The individual's answers are then marked on a chart, leading to the formal title of the program as "cognitive style mapping." The chart, or map, is divided into three categories.

The first deals with verbal or numerical understanding, and whether a student best expresses himself by writing or speaking. Items also give clues to the student's feelings, values and commitments.

The second area reflects the effect of social groups — family and associates — on how the person perceives life. Individuality is also taken into account.

The final section illustrates the thought processes a student may use in making some decision.

"This is the kind of information a teacher can generally find out after observing a student for three or four weeks, but in an adult basic education program dealing with volunteers that can be too late," Larry Kargatis, learning laboratory specialist at Whitney Ave., said.


Reads better than he listens
Uses hearing to derive meaning
Is empathetic
X
Is an individualist ... works well alone
Needs more work in groups
X
Uses rules and definition to make up his mind
Reasons using one comparisons

Once the student has answered the 109-item survey, the Whitney Ave. staff analyzes the answers to come up with an educational approach that will best serve the individual.

The three section 'map' deals with learning methods, personality traits, ability to function in groups, and logic processes.

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